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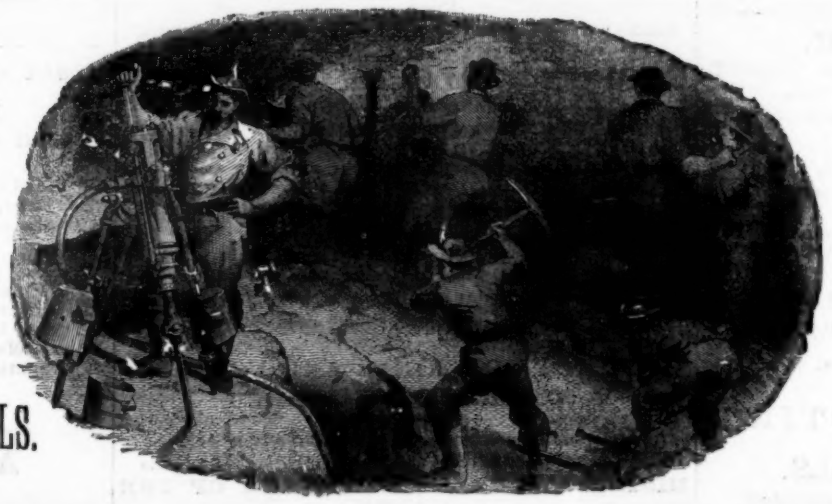

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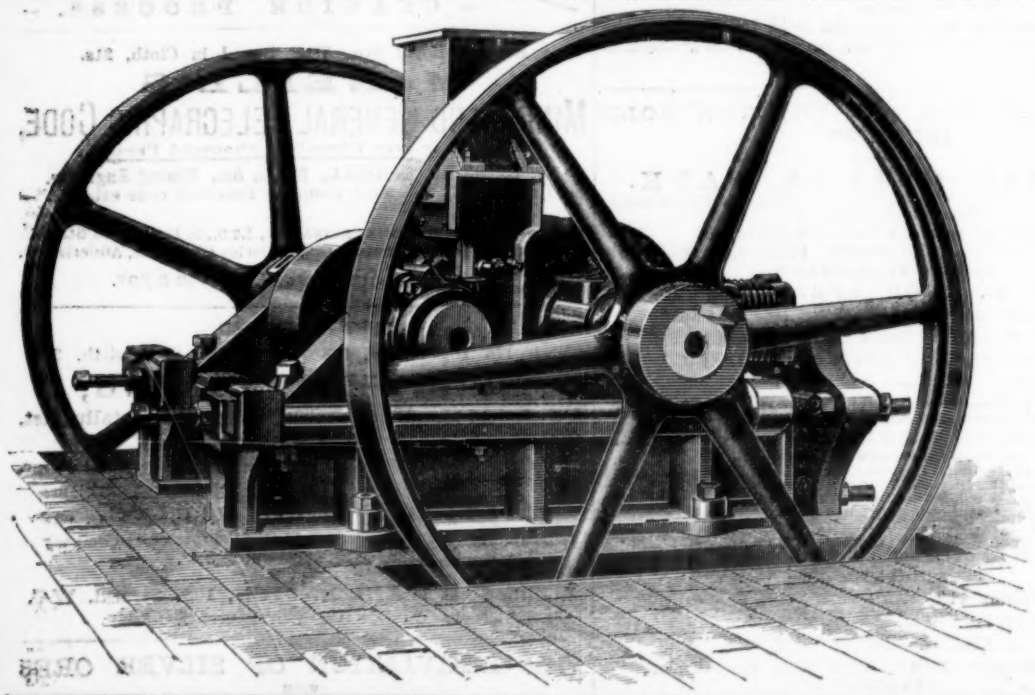

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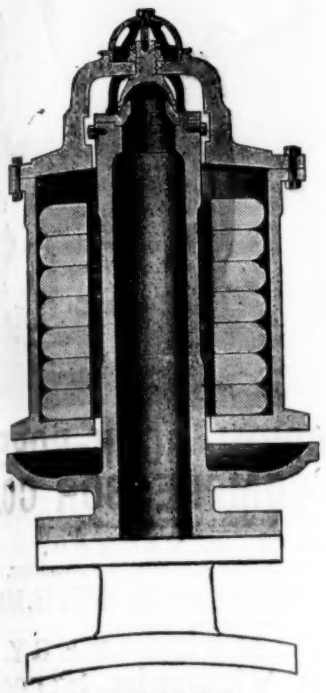

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FIG. 20.

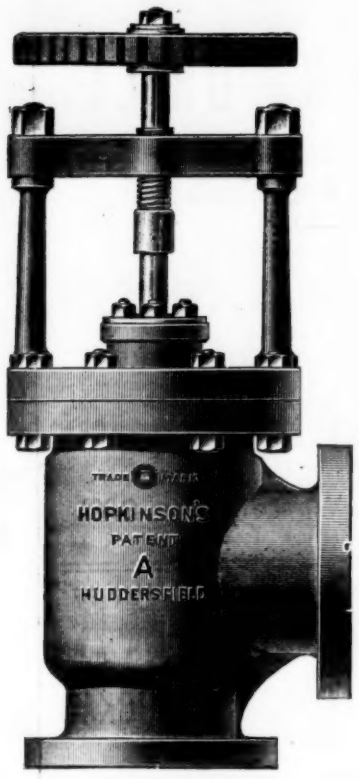

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FIG. 100.

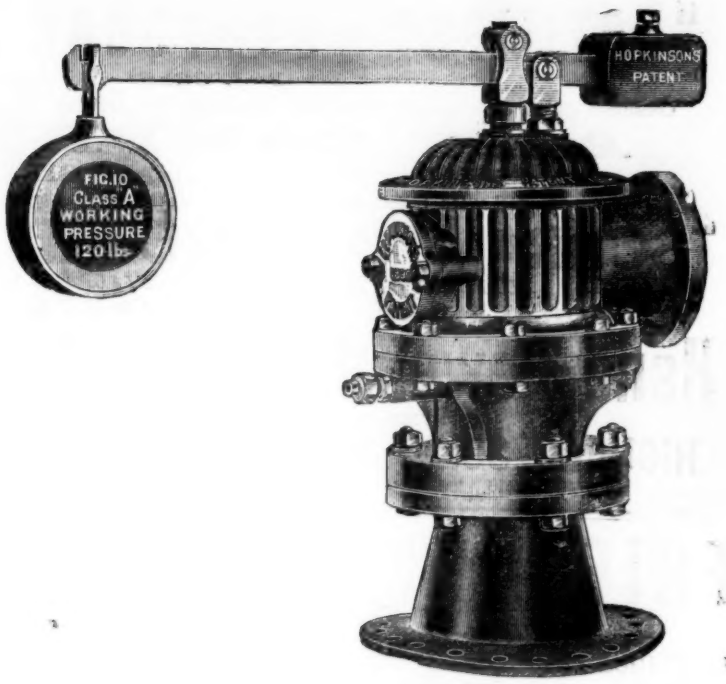

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FIG. 10.

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"OWN MAKE" STEAM GAUGE.
FIG. 401.

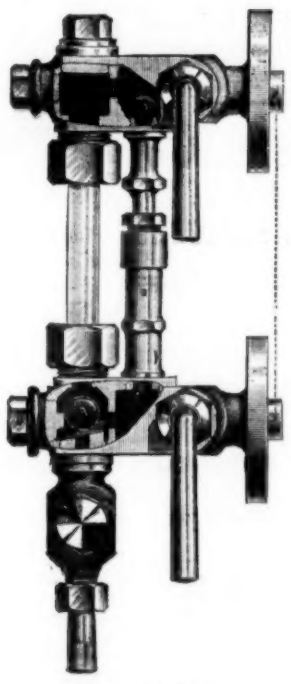

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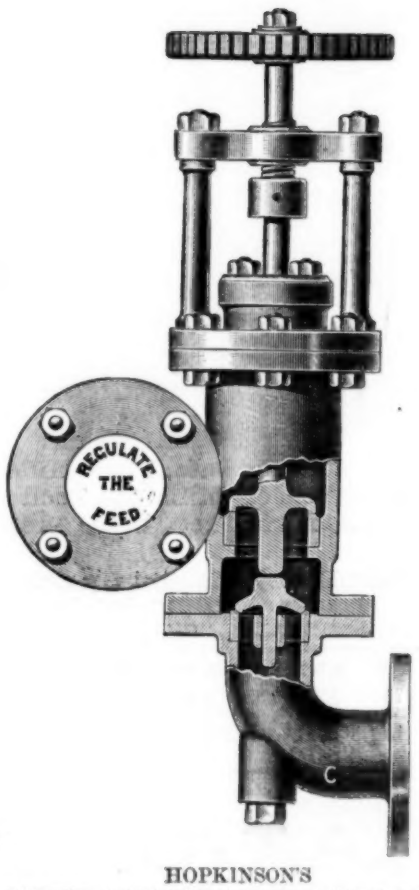
FIG. 644.



HOPKINSON'S
PATENT ACCESSIBLE CHECK-FEED VALVE.
FIG. 132.

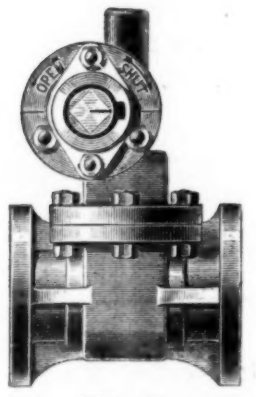
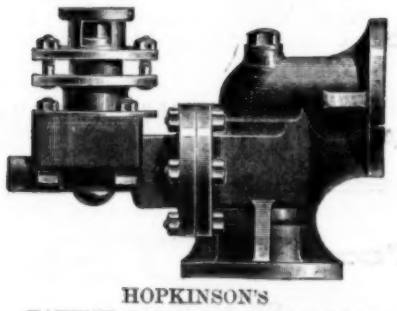


FIG. 254.



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SUPPLIED TO THE INDIAN, COLONIAL, AND OTHER GOVERNMENTS.

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Hand-Power Diamond Prospecting Drills.

ESTIMATES AND FULL PARTICULARS ON APPLICATION.

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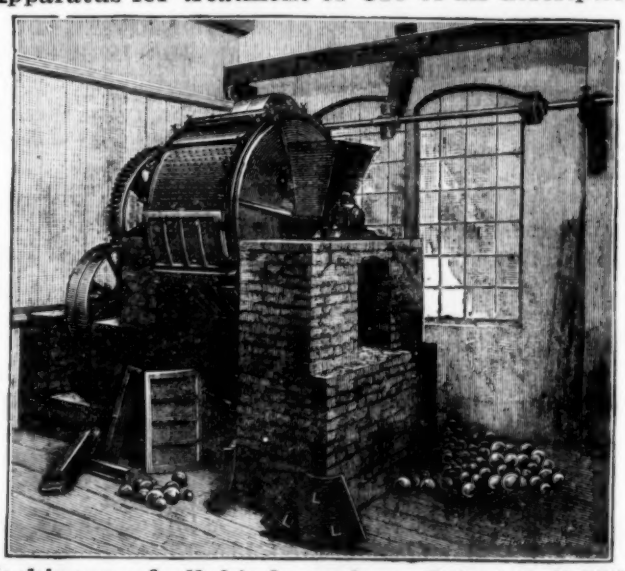

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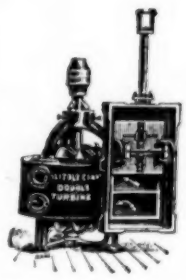

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98 to 99½ per cent. (98 per cent. minimum guaranteed) in

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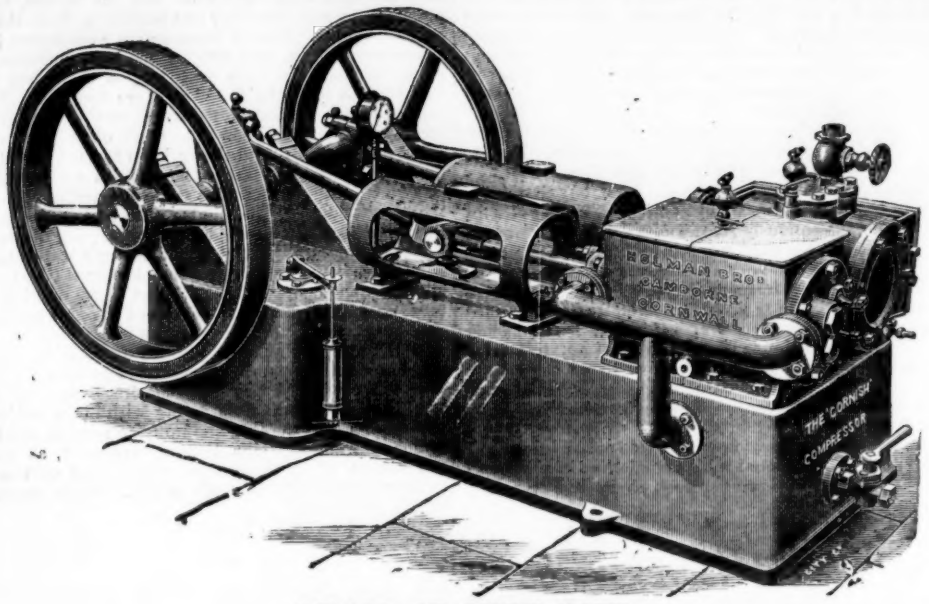

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **6 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

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WORKED EITHER BY ELECTRICITY OR COMPRESSED AIR.

OVER 500 IN USE.

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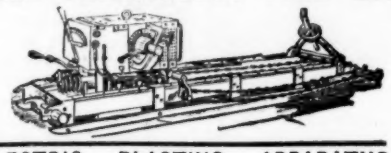

ELECTRIC BLASTING APPARATUS

HIGH OR LOW TENSION SYSTEMS.

REVISED CATALOGUE UPON APPLICATION.

SEC. A. MATHEMATICAL, MINING INSTRUMENTS, MINERS' LAMPS, &c

SEC. B. ELECTRICAL PLANTS AND FITTINGS.

SAFETY FUSES

(NON-ELECTRIC).

SAMPLES AND PRICES UPON APPLICATION

A. B. C. Cable Code, 4th Edition.

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AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

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The Clarkson-Stanfield Concentrator (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS

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The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

NB.—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 27, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

19346 Otto Kunert and Hans Furbach, 39, Kommandantenstrasse, Berlin.—Improvements in driving motors.—November 4.
19347 William Herbert Hyatt, 1, Milton Road, Herne Hill, London.—Improvements in a method for extracting without the use of water, and improvements in apparati for effecting same.—November 4.
19353 Max Oschatz, 1, Broad Street Buildings, Liverpool Street, London.—Improvements in and relating to steam boilers.—November 4.
19409 Augustus John Marquand, 22, Southampton Buildings, Chancery Lane, London.—Improvements
19358 Henry Alexander Mavor, 154, St. Vincent Street, Glasgow.—Improvements in turbines.—November 5.
19359 Henry Alexander Mavor, 154, St. Vincent Street, Glasgow.—Improvements in turbines.—November 5.
19396 John Bonnor, Charles W. Mott, and Herman Hermansen, 7, Staple Inn, London.—Improvements in water-tube steam boilers.—November 5.
19363 Phillip Middleton Justice, 55, Chancery Lane, London.—Improvements in steam boilers and mode of heating same.—November 6.
19370 John Walker Flavell Sole, 31, Southampton Buildings, Chancery Lane, London.—Improvements in furnaces.—November 6.
19435 Alfred Julius Boult, 323, High Holborn, London.—Improvements in or relating to grinding metal milling devices.—November 7.
19477 George Hinde Nisbett, 8, Quality Court, Chancery Lane, London.—Electrical tramway and railway conductors.—November 8.
19504 James Shenton, 128, Colmore Row, Birmingham.—Improved means for balancing slide valves for steam engines.—November 8.
19508 Phillip Maurice Muntz, 433, Strand, London.—Improvements in stamps or stamp batteries for crushing ore and other minerals.—November 8.
19509 Joanny Scotto, 8, Lord Street, Liverpool.—Improved "Field" boiler.—November 8.
19510 William Spratley, 4, South Street, Finsbury, London.—Improvements in machines for breaking or crushing ore, rock, and the like.—November 8.
19512 Friederich André, 1, Queen Victoria Street, London.—Improvements in tubulous boilers.—November 8.
19513 Stephen Gerard Reynolds, 40, Chancery Lane, London.—Improvements in railway spikes.—November 8.

SPECIFICATIONS PUBLISHED.

11554, Thompson, forging or setting wrought metal, 1894; 23351, Lewis' furnace fire bars, 1894; 2349), Evans and Jones, furnaces, 1894; 5384, Teague, gear, &c., engines, 1895; 5939, Barbé, steam motors, 1895; 11572, Fischer and others, extracting precious metals from ores, 1895.

The above specifications published may be had of Messrs. Rayner and Co., 37, Chancery Lane, London, at 10d. each, including postage.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

Zoutpansberg Consolidated Gold Fields (Limited).—Registered November 12 by Jenkins, Baker and Co., 134, Fenchurch Street, E.C. Capital £400,000 in £1 shares. Objects: To acquire a number of gold mining properties in the Murchison Gold Fields, District of Zoutpansberg, in the Transvaal; to explore, prospect, and develop the mineral resources of that district; with a view to the above objects to adopt and carry into effect an agreement made November 7 between D. Clark of the one part, M. T. Stephenson of the second part, and C. G. Kistner, on behalf of this company, of the other part; and generally to carry on in all or any of their respective branches the businesses of miners and smelters, farmers, planters, company promoters, stock raisers; to lay out towns and villages and promote immigration thereto; to acquire and turn to account any patents, as stock and share dealers, &c.

Spanish Phosphorus Company (Limited).—Registered November 11 by Lane, Fagge, and Co., Fitzalan House, Arundel Street, Strand, W.C. Capital £50,000 in £1 shares. Objects: To adopt and carry into effect an agreement made November 5 between the Estramadura Phosphate Syndicate (Limited) of the one part and Wm. Bates of the other part; to acquire any metalliferous and mineral lands, quarries, &c., in Spain, Portugal, or elsewhere, and to carry on the business of manufacturing, purifying, and refining phosphorus, bisulphide of carbon, acids, manures, &c., as oil manufacturers and refiners, brewers, vegetable growers, &c.

Heidelberg Roodepoort Extension Gold Mines (Limited).—Registered November 11 by Dixon, Watts, and Elkin, Savoy Mansions, Savoy, W.C. Capital £250,000, in £1 shares. Objects: To adopt and carry into effect an agreement between the British Exploration [Company (Limited) of the one part and this company of the other part, and to seek for and secure openings for the employment of capital in Africa or elsewhere; to acquire any gold mines or auriferous land, and to carry on business as miners and smelters, farmers and graziers, horse and cattle dealers, coach proprietors, traders, shipowners and brokers; to negotiate loans, to establish and construct gas and electric works, to construct rail and tramroads, and builders and contractors, engineers, &c.

Colonial Mining Properties (Limited).—Registered November 9 by Burgoyne, Watts, and Co., 77, Gresham Street, E.C., with a capital of £20,000, in £1 shares. Object: To acquire by purchase, or otherwise, any mines, lands, mining rights, estates, &c., and to develop and turn to account the same in such manner as the company shall see fit. W. Mitchell is the managing director, with a salary of £500 per annum.

OVERHEARD IN A 'BUS.—"Sir, you are a clumsy fellow—you trod on my foot." "I am extremely sorry—I hope I did not hurt you very much." The soft answer turned away the other's wrath, and even produced an apology. "Oh, no, not very much—you must excuse me, I am a little irritable—fact is, out of sorts, liver, biliousness, and that sort of thing, you know—thoroughly wretched." "My dear sir, of course I excuse you, but why don't you take something?" "Tried everything—no good." "Nonsense, you haven't tried Holloway's Pills, I know—they never fail in cases like yours." "Gad! I never thought of em. By jove, I'll try 'em at once. Hi! conductor, stop the bus."

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

**** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Oil Wagons, November 27 (*London, E.C.*).—For the supply and delivery of oil wagons with cylindrical tanks for the East Indian Railway Company, as per specification and drawings to be seen at the company's offices. Tenders are to be sent to Mr. A. P. Dunstan, secretary, Nicholas Lane, London, E.C., marked "Tenders for Oil Wagons," not later than one p.m. on 27th inst. For each specification a fee of £1 1s. is charged, which cannot under any circumstances be returned.

Ironworks, November 27 (*The Hague*).—For the supply of iron and ironwork, including the superstructure with accessories, for 29 bridges, and diverse rolling stock parts. Conditions from the Ministerie van Koloniën, The Hague.

Fuel, December 2 (*Swansea*).—For the supply of coal and patent fuel for six or twelve months from January 1, for the Swansea Harbour Trustees. Forms of tender and full particulars may be had on application to the Engineer, Harbour Office. Tenders by noon on December 2.

Coal, December 3 (*Baltimore*).—For the supply of best-screened red ash coal, free from slack, to be delivered at the school and trimmed in coal vault, from January 1 to July 1, 1896; also for bread—best flour, first quality; best seconds and best wholemeal—delivered at the school in 2 lb. loaves, fresh, well baked and cold, for the Governors of Baltimore School.

Iron Piping, December 3 (*Milton*).—For supplying about 700 yards 2 inch and 700 yards 3 inch cast-iron piping; also for about 500 yards of galvanised lap-welded tubing (¾ inch and 1¼ inch), and sockets, for the Milton Union Rural District Council. Specification and form of tender can be obtained on application to Mr. W. J. Harris, clerk of the District Council, to whom sealed tenders, marked "Tender for Pipes," are to be delivered by December 3.

Colliery Stores, December 10 (*Durham*).—For next year's supply of iron castings, wire ropes, oils, and other colliery stores, except timber, for the South Hetton Coal Company (Limited). Forms of tender and specification, with full conditions, may be obtained from Mr. J. R. Lambert, South Hetton, Sunderland, and applicants for forms must state the kind of stores for which they wish to tender. Tenders addressed to the South Hetton Coal Company (Limited), South Hetton, Sunderland, will be received up to December 10.

Rolling Stock, December 18 (*Brussels*).—For the supply of 30 12 ton locomotives, 91 passenger carriages, 18 luggage vans, and 300 goods wagons, for the Société Nationale des chemins de fer vicinaux, rue de la Science, 28, Brussels. Plans and cashiers des charges at the offices of the Society in the Bureau de la 3e division (traction et matériel) from December 2 next.

Well Lining (*Penkridge, Staffs*).—For lining and deepening well at St. Margaret's Home, Penkridge. Particulars from Mr. W. O. Rooper, C.E. (Staffs).

METHODS OF MINE TIMBERING.*

THE leading characteristics of American timbering in which it differs from English work is that they have been compelled to work different methods for timbering their large ore masses. From the necessities of the case the American methods of securing timber have arisen.

Great Chambers and Square Sets.

The systems of timbering hereinbefore described refer particularly to veins having a width not exceeding 12 feet, though mines have been worked under great difficulties, and where the operations were attended with extreme danger, where the distance between walls was 20 and even 25 feet. An instance may be mentioned in California in the Mount Jefferson Mine, at Groveland, in Tuolumne county, where the vein was 25 feet from wall to wall. A very ingenious system of timbering was introduced in 1854, or thereabouts, consisting of long stulls supported by wall and inside props 7 feet apart. Longitudinal braces, or ties, were also introduced to support the timbers longitudinally, but the support was insufficient, and a most disastrous case resulted. It is a matter of absolute impossibility, however, to recover by the methods thus far given, all the ore from such great masses of mineral as were found in the Comstock lode, where one ore body, the Great Bonanza, measured 340 feet in width at one point, 600 feet in height, and 1250 feet in length. Stopes in the various mines of the Homestake group, in the Black Hills, South Dakota, range from 40 to 150 feet in width and several hundred feet in length and height. The Caledonia Mine, of this group, measured on the 300-foot level 195 feet horizontally. The Homestake vein at the surface, in the open cut, is 360 feet wide, by actual measurement.

In California there are many mines of great value that cannot be worked by any system of stulls. The Stonewall mine, in San Diego county, has 20 feet or more of vein in places. The Alvord Gold Mine, in San Bernardino county, is a very wide vein. The Odessa, Occidental, Oriental, Silver Monument, and Waterloo Mines, of the Calico District, measure 30 to over 100 feet in width. Some of the mines of Bodie have very broad veins. The Josephine Mine, in Mariposa county, has an immense ore shoot 50 feet wide. The Utica-Stickles Mine, at Angels, Calaveras county, is 40 to over 100 feet wide, and the Gover Mine, of Amador, has an ore body 30 to 50 feet wide. The Zeila, at Jackson, is working an immense mass of ore. The Boston Mine, near Mokelumne Hill, is 40 to 60 feet wide, and some of the ore bodies in the larger quicksilver mines are of prodigious size. In addition to these there are many other mines on the gold belt of California where the great width of vein precludes the extraction of the ore by the use of any system of stulls or simple posts and caps.

Veins and ore bodies of large size can be safely, completely, and cheaply mined by using what is known as the "square set" system of timbering, introduced in 1860 by Philip Deidesheimer, while superintendent of the Ophir Mine, on the Comstock Lode.

Invention of Square Sets.

The following interesting reference to early mining on the Comstock is from Monograph IV., of the United States Geological Survey, "Comstock Mining and Miners":—

"At the 50-foot level (of the Ophir Mine), the vein of black sulphurets was only 3 or 4 feet thick, and could readily be extracted through a drift along its line, propping up the walls and roof, when necessary, by simple uprights and caps. As the ledge descended the sulphuret vein grew broader, until at a depth of 175 feet it was 65 feet in width, and the miners were at a loss how to proceed, for the ore was so soft and crumbling that pillars could not be left to support the roof. They spliced timber together to hold up the caving ground, but these jointed props were too weak and illy-supported to withstand the pressure upon them, and were constantly broken and thrown out of place. The dilemma was a curious one. Surrounded by riches they were unable to carry them off.

"The company was at a loss what to do, but finally secured the services of Philip Deidesheimer, of Georgetown, California, who visited and inspected the treasure-lined stopes of the Ophir."

That the ore body could not be extracted in the usual manner was at once apparent, and Mr. Deidesheimer says he set about his task with some misgivings. He did not at one stride grasp the idea of the square set, but the system which now bears his name was the outgrowth of circumstances and the very necessities of the case. He instituted a policy, however, the wisdom of which soon became apparent.

The first step was to crosscut the vein from wall to wall, starting from a drift on the hanging wall side of the vein. As the work advanced he set up posts and placed caps above them, not across the course of the drift, as is usually done, but along the sides, the idea being to form, when completed, a line of caps which would reach continuously from wall to wall. To accomplish this the ends of two caps were placed upon each post, except at the ends. These novel sets were held in place by pieces of 2 by 4 scantling 4½ feet in length, and reaching across the drift from near the top of a post to that opposite.

Having successfully driven the crosscut, Mr. Deidesheimer now ran a drift some distance along the footwall, timbering with posts and caps in the ordinary manner—that is, the caps were placed upon the posts at right angles to the drift and parallel with those in the crosscut. The posts in each case were set perpendicular. Returning to the point where these operations were begun, a second section by the side of the first crosscut was taken out and timbered with a single line of posts and caps, the 2 by 4 scantling being placed as in the first case. When this section was completed there were standing three lines of posts surmounted by three lines of caps, extending from the foot to the hanging-wall. This was not really a new idea, as Mr. Deidesheimer had previously employed the same method in his drift mine on Forrest Hill, when the breast was carried in 125 feet wide, the roof being supported by rows of posts with continuous caps.

The work thus far performed in the Ophir revealed the fact that an extremely rich body of ore extended upward from the level where this work had been done. The miners were directed to commence stoping upward in the body of soft, black, crumbling ore, and soon a considerable excavation had been made. It became evident that the ground must be secured at once.

In the Georgetown Mine, that Mr. Deidesheimer had left but a short time before, the vein was vertical, and the walls were so soft and crumbling that in order to stope out the mineral he had resorted to the expedient of setting one post directly above another, the lower end resting on the cap, and in this way he managed to work the vein without much difficulty.

The Georgetown experience suggested the idea of adopting a similar plan in the Ophir. Accordingly, Mr. Deidesheimer had a mortice cut at the junction of two caps, which were already in place, and having a post framed with a tenon to fit, set the post in place directly above the one resting on the floor below. In a short time four posts were in a position with the caps upon them as below, together with the frail 2 by 4 scantling, the office of which was to keep the other timbers from falling down. The first "square set" timbers, it will be seen, were framed in the mine, the mortices being cut in the timbers in place. The work of extracting ore proceeded slowly yet, for the ground had to be secured as well as possible. It soon became evident, however, that something more substantial than 2 by 4 scantling would be required to keep the timbers in position, and it was determined to put in timbers of the same dimensions as those forming caps and posts. This was done at once, and the "square set" was complete in principal, though not in detail. The caps occupied all the space on top of the posts, leaving no resting place for the "ties," which had to be supported in some other manner. As they were only looked upon as simply an auxiliary—a support to the posts and caps—they were only required to be held in position. Accordingly a lot of iron spikes were made, in shape somewhat like the thumb, having a sharp point at one end, the other end having a face three-fourths of an inch square. Two of these spikes were driven into a post at the proper height, and two in the post opposite, and the tie placed so that the ends rested upon these iron lugs, wedges being driven in at the ends to secure firmness. The posts and caps were now framed on the surface and delivered below, ready for use wherever needed. The work of mining now progressed much more rapidly, and the problem seemed solved. Soon after it was determined to frame the timbers so that the ties might also rest on the posts. The stopes becoming of such great size, the dimensions of the timbers were increased, and they were then framed as shown in the accompanying illustrations.

As the work progressed slight changes were made from time to time whenever any improvement seemed possible. Sills were laid upon the floors of the levels as a foundation for the timbers above, which had now assumed massive proportions. The sill timbers were cut as long as it was possible to get into the mine. The men who were obliged to handle these ponderous timbers could see no reason why the sills should be longer than the caps, and had from the first looked upon the growth of this new system of timbering with much prejudice. When the great stopes were carried up from level to level the wisdom of the use of long sills became apparent, as they permitted the removal of all the ore and the placing of timbers without danger or loss, which could not have been accomplished with short sills, as when breaking up through the floor of a level from below short sills would have nothing to sustain them.

When, in the course of ore extraction, the work reached the walls, additional timbers, called "wall plates" were put in, as shown in the sketch of timbering in the Ophir Mine. The caps were extended from the nearest post to the wall plate, except when a post came within 2 feet of the wall plate. In such case the cap extended from the wall plate to the second post in a single piece.

By a close inspection of the drawings the details may be plainly seen. It will be noticed that a system of braces reaching diagonally across the sets was also introduced, as well as close lagging on the walls. There is no doubt that the Ophir was the best timbered mine in the world, but the Comstock miners who gladly adopted the Deidesheimer system soon began to disregard many precautions which to them seemed unnecessary. The diagonal braces were left out, and the ground was found to stand about as well. Then, anxious to still further reduce expense and hurry the work of extraction, the lagging on the walls were dispensed with, and later, in somewhat firmer ground, the wall plates were left out, and finally the timbers were placed in rectangular sets, with only a few props here and there to the walls and roof, as shown in the drawing of the Caledonia Gold Mine. The disregard of these important details in American mines has resulted in numerous disastrous caves.

Owing to the careless timbering in the "Big Bonanza," in the California and Consolidated Virginia mines, cribs of solid timber had to be built, reaching from the floor to the roof.

The sketch of the Caledonia Mine, in the Black Hills, S. D., represents the mine as it appeared in the spring of 1883. The main shaft was sunk in the large vein, the hoisting works being located on the adit level, 200 feet from the surface, vertical

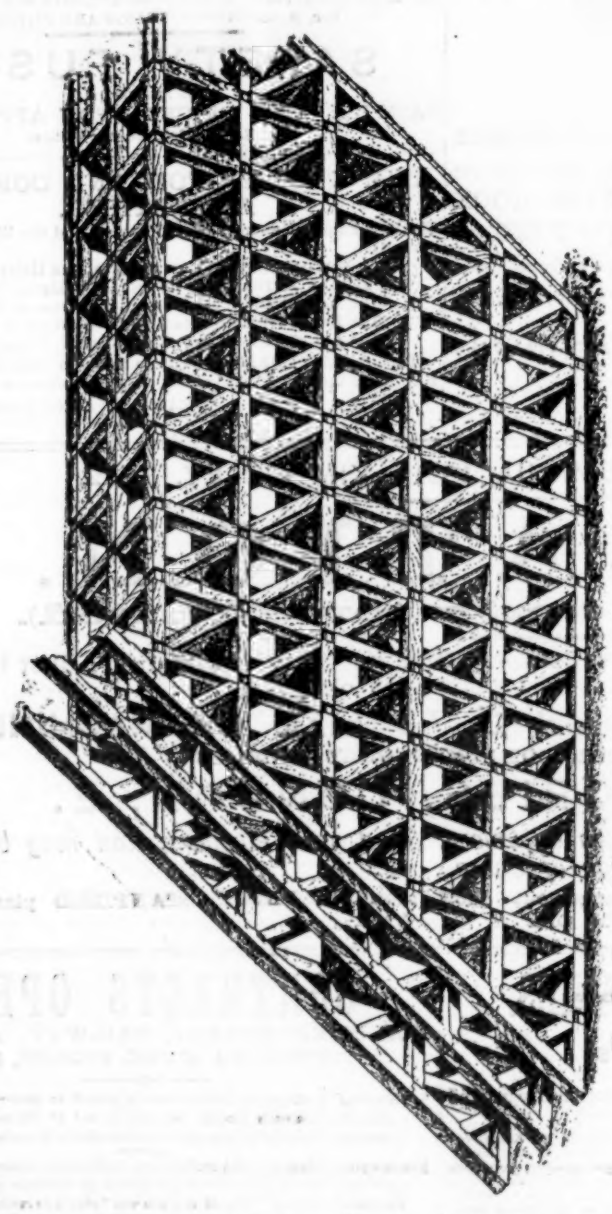

FIG. 32. Plan and System of Timbering on the great "Comstock Lode," Virginia City, Nevada. Invented by Philipp Deidesheimer in 1860, while in charge of the Ophir Mining Engineer.

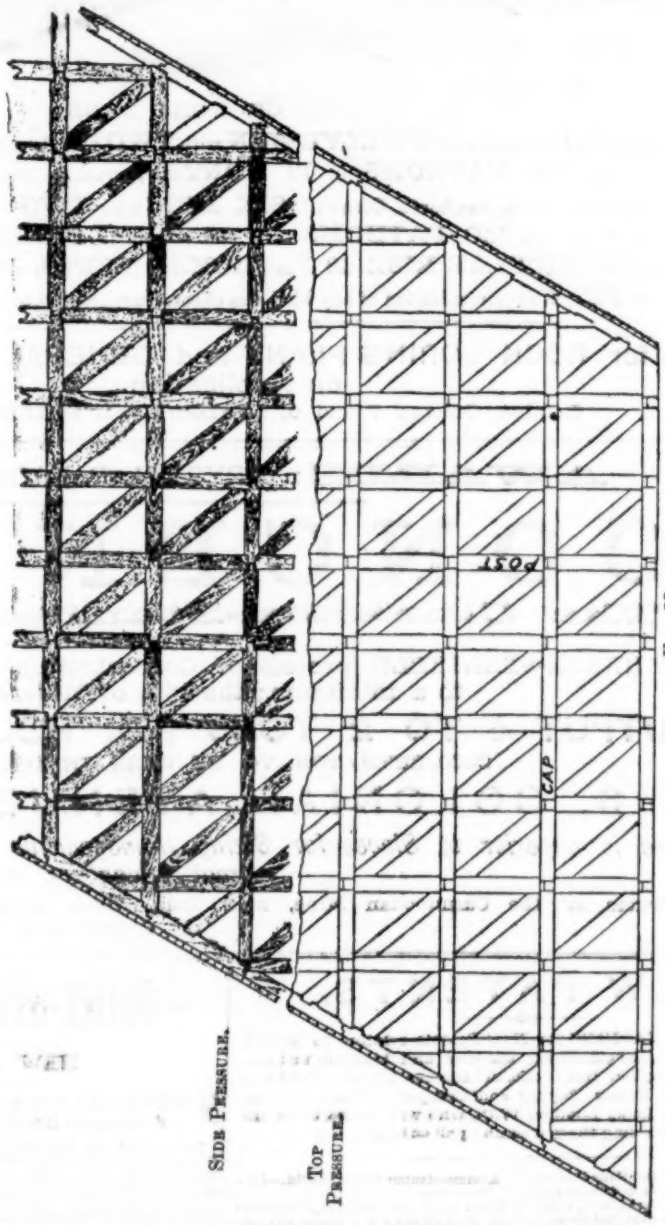

FIG. 33

* Taken from Bulletin No. 2 issued by the California State Mining Bureau.

measurement, and 820 feet from the mouth of the tunnel. This shaft reached the footwall on the 300 feet level, and a large stope was at once opened around the shaft, a pillar of ore 30 feet square being left to support it. The shaft was continued vertically to the 400 feet level and an extensive stope opened there also. The gold-bearing rock of the Caledonia is hard white quartz, which occurs in bunches and reticulated veins in chloritic schist, and in this respect resembles some California mines, as the Utica-Stickles, Gover, and some others. In the Caledonia great headers were excavated in advance of placing the square sets. The timbers were all properly framed and were massive, but there was a disregard of what were considered the minor unnecessary details in placing them, particularly on the walls and against the roof. As these large stopes were extended, too broad an area was taken out at one time, and the superincumbent weight at length threw the timbers out of line, and almost without warning the mine caved, the immense timbers "jack-knifing" and snapping like reeds. Thousands of tons of ore, the expensive machinery, and a mass of splintered timbers were dumped in a chaotic mass to the bottom of the 400 feet level. There were three causes which led up to this disaster: The timbering and the slippery nature of the footwall (talc schist), which afforded a poor support to the large pillar of ore. It is unreasonable to expect a frame of timbers, however strong, to support the weight of a mountain of rock, and for that reason discretion should be used in extracting large bodies of ore. It is hazardous to attempt to remove a section more than three or four sets wide at one time from the floor of one level to that next above. A breast may extend entirely across the deposit or vein, but if more than four sets in width are removed at one time, it allows too much weight to fall upon the timbers, and the probability of a cave is greatly increased.

By taking out a section, which may extend entirely across the vein or deposit, three or four sets wide, and carrying the stope up somewhat in the form of a pyramid, so that on nearing the floor next above only the space of a single set, or at most, not more than two, be at first removed, and the timbers firmly wedged to the sills before enlarging the excavation at that point, all the ore may be extracted, and the operation in this manner is attended by the least expense and danger. When a section has been mined out from level to level as described, a second section may be attempted. Under all ordinary circumstances, it will be found that the timbers will usually support the ground until the stopes can be filled with waste. At many mines waste is obtained on the surface, and in some the opening of large chambers in the hanging-wall is necessary to obtain a sufficient amount of material for filling the stopes. There is always danger in the removal of a mass of rock which stands on a base that is broader than its upper portion, or apex, like the letter "A," while, on the other hand, a "V" shaped mass is largely supported by the walls. Many ore bodies are lens-shaped; that is, broader at the centre than those portions either above or below; and in these masses the greatest expense and danger attend the removal of the upper portion.

(To be Continued.)

TIN TICKETING.

THE fornightly ticketing for tin ores was held at Tabb's Hotel, Redruth, on Tuesday. Result:—

VALUES OF ORES SOLD BY EACH MINE.

Mines	Tons cwts.	Per ton. £ s. d.	Value. £ s. d.
Dolcoath No. 1	13 0	39 17 6	518 7 6
do No. 1a	13 0	39 17 6	518 7 6
do No. 1b	12 0	40 0 0	480 0 0
Wheal Grenville A	22 0	40 15 0	896 10 0
do B	14 0	40 12 6	568 15 0
East Pool A	17 0	37 7 6	635 7 6
do B	17 0	36 12 6	622 12 6
do No 2	1 10	16 15 0	25 2 6
South Frances United No. 1	13 0	37 17 6	492 7 6
do No. 1a	13 0	38 2 6	495 12 6
Carn Brea No. 1	12 0	31 7 6	376 10 0
do No. 1a	11 0	31 10 0	346 10 0
do No. 2	1 10	24 7 6	36 11 3
Wheal Basset No. 1	12 0	41 5 0	495 0 0
do No. 1a	11 0	41 12 6	457 17 6
Tincroft	10 0	35 5 0	352 10 0
do.	10 0	35 10 0	355 0 0
West Kitty	13 0	41 0 0	533 0 0
Phœnix United No. 1	10 0	40 12 6	406 5 0
do No. 2	2 10	36 7 6	90 18 9
Killifreth	12 0	37 17 6	454 10 0
West Frances	10 0	37 0 0	370 0 0
South Condurrow	5 0	40 12 6	203 2 6
	255 10		£9730 17 6

AVERAGE PRICES PER TON.

October 8	£39 1 3	November 5	£38 10 1
October 22	38 13 1	November 19	38 1 8

DURHAM "ALLAN REEF" GOLD MINING. — Mr. F. Orchard presided on Tuesday afternoon at the seventh annual meeting, held at 163, Fenchurch-street, and in moving the adoption of the report, explained that the principal drawbacks to the progress of the De Kaap gold fields had been the absence of fuel, the general insufficiency of the water supply, and the difficulties of transport. These impediments to cheap mining were being rapidly overcome by the opening of the Barberton branch of the railway from Delagoa Bay to Pretoria, when coal would be delivered on the field at 30s. per ton; and the starting of the electrical installation by Moodie's Company, whereby several properties were now working their stamps by electricity. The directors were fully alive to these altered conditions, and although they had no tangible proposition to place before the shareholders, several schemes of amalgamation had from time to time been brought forward. The uncalled capital of the company being too small to permit of any further development work being done on the property, the directors thought the course they had adopted in the past would recommend itself to the shareholders as the only one to pursue under the circumstances.—Mr. R. H. Pringle seconded the motion, which was carried unanimously.

GOLDEN ARROW MINE (LIMITED).—A general meeting of the Golden Arrow Mine (Limited) was held on Monday, at Winchester House, for the purpose of declaring a bonus distribution of 20,000 shares in the St. George's Arrow Mine (Limited) "to be received from the vendors in pursuance of the agreement for acquiring the St. George's Arrow Mine, adopted at an extraordinary general meeting of this company, held on November 6, 1895."—Mr. C. E. Hogg occupied the chair, and in moving the adoption of a resolution authorising the distribution, explained that it was part of an arrangement by which the Golden Arrow were to absorb the St. George's Arrow Company. The two properties were so intimately associated that to work one without the other appeared, to an impartial person, to be a condition that could scarcely be beneficial to any of the people concerned in either property.—Mr. T. Harrison-Davis seconded the motion, which was carried unanimously.—Subsequently, at an extraordinary general meeting, a resolution was passed authorising the extension of the company's working capital to £200,000, by the creation of 80,000 new shares of £1 each.

THE GOLD MINES OF THE REMEDIOS DISTRICT REPUBLIC OF COLOMBIA.

By FRANK OWEN.

(*Concluded from page* 1388).

Cristales Mines.

AFTER the Frontino and Bolivia Company's Mines those of Cristales form the largest establishment in the Remedios district. They comprise two vein mines—the Cristales and San Nicolas, and a placer mine, the Santiago. The same owners have also a vein mine, the Solferino, near Amalfi, 90 miles south-west of Remedios.

The Compagnie Française de Segovia, of Bordeaux, was started in 1887 to work these mines, and erected a fine Californian mill by Messrs. Fraser and Chalmers (Limited) to crush the ore from the Cristales and San Nicolas Mines. This mill contains 30 stamps of 900 lbs. falling weight, two Dodge crushers, six Frue vanners, two Wheeler pans and settlers, and is driven by a Pelton wheel, 4 feet 6 inch diameter, with 200 feet head. The system of treatment originally adopted was plate amalgamation in and outside the battery. The vanner concentrates were roasted in a reverberatory, and then ground and amalgamated in pans.

This company went into liquidation in 1891, and the mines were taken over by the Franco-Belgian "Société des travaux miniers," who restarted the works in 1893. It is understood that the cyanide process will now be adopted for the treatment of concentrates.

When the mines were in full work the maximum output was about 2000 ounces a month. The San Nicolas enjoys the reputation of being the richest vein mine in Antioquia; the lode is supposed to be a continuation of that being worked at Silencio and La Salada Mines. The character of the mineral is very similar.

Sucre Mines.

The Sucre and Providencia Mines are owned by the Colombian Mines Corporation (Limited), and were started in 1887. There are several native mills on the property. The average monthly output is 1200 tons of ore, producing 650 ounces of bullion, or (say) 250 fine ounces of gold. The same company own the Colombia, Colon, Alejandria, Candelaria, Chimborazo, and Samachi Mines, but is not at present working them.

Cogote.

The Cogote Mine has been worked by Messrs. Hill, of London, for 12 years or so. The output at one time reached 400 ounces of bullion monthly, but has since fallen off.

Other Vein Mines.

There are five vein mines in the Remedios district at present being worked by native companies, the annual output of which may be estimated as under:—

Mine.	Ozs.
La Cirila	4,500
Los Pugidos	2,000
Santa Isabel	1,500
Girardot	1,000
La Reina	1,000
Sundry sources	1,500
Total	11,500

Taking the average standard of the above bullion at 0·550 fine, this would represent 6325 fine ounces, worth £25,300.

The most interesting of these mines is the Santa Isabel, which has been worked continuously by the same family for the last 40 years, with varying success. Some very fine specimens of "wire gold" are found from time to time in "vuglio" at this mine, several of which were exhibited by the Colombian Government at the Chicago Exposition of 1893. In the year 1868, 35 ounces 13 dwts. of gold were taken at the El Coco mine, adjoining the Santa Isabel, from a specimen of quartz, 4 lbs in weight.

Native System of Partnership.

The native system of working mines in partnership is distinctly curious. Each mine is divided by law into 24 equal shares, any number of which may be held by one person. Often at the death of a shareholder his share becomes split up into a quarter, one-eighth, or even one-sixteenth parts, and much confusion and litigation ensues. The practice is to divide the gold dust and amalgam produced by the mine at the end of each month between the shareholders, each getting in weight the proportion of his share. The monthly costs are then made out, and each person is called upon to pay his part in proportion to the amount of gold he has received. Sometimes, when they are running on rich ore, the partition of the day's clean-up will take place every evening.

Spanish Weights for Gold.

The old Spanish system of weights is still customary for gold in Antioquia, although the metrical system is the only one officially recognised. The weights are:—

12 grains, equal 1 tomin.
8 tomines, equal 1 castellano.
100 castellanos, equal 1 lb. (Spanish).
6·76 castellanos are equivalent to 1 troy ounce.

Placer Mines.

The richer alluvial deposits of Remedios now appear to have been chiefly exhausted—at all events, so far as regards native working. Greater attention has accordingly been turned to vein mining, so that not so much placer working is carried on in Remedios as in some other parts of Antioquia, and the output of gold from this source has fallen off very considerably during the last few years. There is now only one alluvial mine working on any scale—viz., La Mata, producing 200 ounces per month. The total annual production of alluvial gold in the district may be taken as 7000 ounces of 0·800 fine. This would be equivalent to 5600 fine ounces, worth £19,000. Alluvial mines in Antioquia are of two classes—viz., what are known as "summer" and "winter" mines. The former consists of the beds of rivers and streams which are only exposed during the dry season, whilst to the latter class belong those deposits which are only workable when the wet season furnishes the requisite water. Many of the so-called placer mines in Antioquia are not true alluvial deposits, but merely the decomposed and more easily workable outcrops of lodes. The method in vogue for working the placers is a very crude and wasteful form of "ground sluicing." Hydraulicing has not yet been introduced into Antioquia on a scale of any magnitude.

Two French companies successively attempted during the years 1883—1887 to work alluvial banks on the River Nechi with dredgers, but are reported to have spent 1¼ million francs without any substantial return. Some Americans who are working on a smaller scale in that neighbourhood are stated to be doing well.

Standard of Bullion.

Antioquian gold, whether from vein or placer mines, always contains a considerable proportion of silver. More especially is this the case with veins containing galena. Remedios gold contain, as a rule, more silver than that from most of the other districts of the department. The average of 14 assays of lode gold from various mines in the Remedios district was: gold, 0·628; silver, 0·372. The mean of 50 assays of lode gold from various points in the department was: gold, 0·698; silver, 0·302. Fifty assays of Antioquian placer gold averaged: gold, 0·834; silver, 0·166. These assays were conducted in the laboratory o Messrs. Restrepo and Escobar in Medellin. They refer to pure gold dust, and not to the product as obtained direct from the mines, which, whether as dust or amalgam, always contains a certain proportion of base metal. Even the alluvial gold dust is seldom obtained free from impurities. The actual standard of Remedios gold, as exported in bars, may be put down as—alluvial—

Gold	0·800
Silver	0·150
Lode gold	0·550
Silver	0·350

The bullion obtained from plate amalgamation as practised at the Frontino and Bolivia mines is now yielding a considerably higher standard of gold than the above.

Nuggets.

Large nuggets are rare in this part of Colombia. The largest of late years in Remedios was found in 1892, and weighed nearly 30 ounces, and was valued at £105. The largest nugget on record in Antioquia in recent times was found in 1855, and weighed 80¼ ounces.

Colombian Mining Laws.

The Colombian mining laws, which came into force in 1887, are theoretically very good and simple. The trouble lies in their practical administration, whereby any "man of straw" is able to dispute a perfectly valid title. He may thus cause, even though he eventually loses his suit, much delay, annoyance, and expense to the holder of a title.

A vein mine (Art. 23) consists of three rectangular pertinencias or claims, each 600 metres long by 240 metres wide, consequently the mine comprises a rectangle of 1800 by 240 metres; but as the measurements (Art. 25) are made on the surface, which is usually very broken, and not on a horizontal plane, the result is that the claims are irregular in shape and not truly rectangular.

The tax on a vein mine is $2 (paper) per annum for each claim—*i.e.*, $6 for the whole mine (Art. 143). The owner of the mining rights, even though he does not own the surface, has a right to all timber (Art. 180) and water (Art. 205) on the land which he may require for mining purposes. By paying the tax on either class of mine for 20 years in advance, possession can be obtained in perpetuity. This is known as "protocolisation." A placer mine (Art. 28) is 5 kilometres square, and the tax on it is $5 per annum.

The fees payable on taking up either a vein or placer mine are $15.

Present Output of Remedios.

The total annual output of gold from the mines of th Remedios district, as near as it can be obtained, is:—

	Bullion. ozs.	Value. £
Frontino and Bolivia Company	42,000	105,000
Colombian Mines Corporation	7,500	12,000
Messrs. Hill	1,500	3,700
Native companies	11,500	25,300
Placer mines	7,000	12,000
	69,500	£165,000

Making, with the gold contained in the Frontino and Bolivia concentrates, a total of 41,250 fine ounces per annum.

General Conclusion.

The foregoing remarks, without any pretence to elaborate technical description, will, it is trusted, be of some interest as giving an idea of the work now being carried out under considerable difficulties in a remote and comparatively unknown mining region. The very considerable amount of gold produced in past times by imperfect and wasteful methods, and the increase in the output shown of late years on the adoption of a more intelligent and systematic mode of ore treatment, plainly indicates that the Remedios district embraces an area of great mineral wealth. Indeed, it may be said that:—

"Every prospect pleases,
And only man is vile."

With a more settled system of government in the country, and improved means of transport from the coast to the interior, deep mining on a large scale will become practicable at Remedios and other parts of Antioquia, and a considerable factor will thus eventually be added to the world's gold producers.

MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.E.

VESTA

Two shafts are down on this property, one 130 feet, the other 170 feet. The pannings from the reef are distinctly good, and work is being pushed forward.

HORSHAM MONITOR.

The old vertical shaft is being sunk to 200 feet, and the north incline is progressing. Miners' quarters are going up, and all requisite machinery is on order and should be on the ground within four months of date

GLENLUCE

Sixty heavy stamps are ordered, and will be running in 12 months. The property consists of 62 claims, and has the same reef as the Glencairn. After the law case, which must result in favour of this company, has been decided, another 60 stamps will be erected.

BALMORAL.

This mine is opening out distinctly well, and sixty more stamps are on order.

CASSELL COLLIERY.

The main shaft is being rapidly sunk, and the expectation is that very shortly the output will be 60,000 tons

KOMATI DISTRICT.

Mr. W. J. Kent, C.E., who has been in this country for 7½ years, has taken up, after careful inspection, seven farms from Geronden. There is a series of reefs, white and blue quartz, varying in width from 18 inches to 3 feet, and assaying from 2 to 8 ounces. The farms have been obtained on prospecting licenses, varying in time from 6 to 18 months, and the purchase price (very moderate) per farm has been fixed. The £10 shares of the syndicate, for which Mr. Kent has operated, are to-day of a value of £100. The engineer in charge would, if he could, buy them all at this figure.

The transfer books of the BALKIS LAND COMPANY (LIMITED) are closed from the 16th to the 30th of November, both days included

THE MINERAL DEPOSITS OF THE PYRENEES.

By JUAN MACVEIGH.

Iron Ore.

THE fundamental primary of metal deposits exercises an attractive force throughout the three kingdoms of Nature so universally as to be of indispensable necessity for the future operations of each. It has had such wide-spreading fame since the first lucid flash of the fiat imparted electric energy to its essence, as to need no Homer to sing its praises, every workshop hammer of the world being employed in toning its *do re mi fa* sold, *sol* do; while the greatest undertakings erect its monuments. Everybody knows something about iron ore, but who knows what it really is?

Among the greatest men of modern society who have sought most diligently after iron ore stand prominently in front the names Bell, Reilly, and Head. And not only among theorists, but among practical men, so many different results existed as the outcome of "experiments," that had it not been for the masterly superiority and sound common sense of Bell, the many dangerous and conflicting opinions about iron ore would have deranged the whole British industry, and have diverted the trade from its proper course to other channels of supply which have arisen to give us the bold face of competition, not only in our foreign markets, but on our own ground—even around our own factories and in our own workshops. Yes, but for the stern articulation of Bell, the great iron trade would have been following the lead of the German aggressive system.

Iron ore yields so readily to any kind of treatment that the many great forward advances made by "experiments" rendered it at one time almost impossible for Bell to restrain the efforts of great names from revolt. Some of the many revolutionary changes were so notable, because of their temporary utility, as to create the necessity of delegated meetings to examine and decide upon their merits. While eloquence dominated, the advocates of their "results" were inflated with the self-complacency of victory. The reports from Norway and Sweden so far surpassed expectation that no other voice was audible than the Gloria-Norgueuse *ad infinitum*.

Truly enough, very large deposits of iron ore exist along the west coast of Norway and Sweden, with easy and cheap conditions of delivery in England.

Some of the best names gave their support so heartily to the scheme of development of the deposits that the prospectors of the great iron message conducted their survey into the heart of the country. Nor was their journey fruitless, for they discovered such immense masses of ore as to reduce the value of the large deposits of the coast. The importance of the same resulted in a grand mineral railway of over 200 miles long. Against the project Bell warned and rewarned, but the revolutionists pushed ahead on the path of glory, forgetting the six months of shade.

The ore, no doubt, exists in abundance for centuries of consumption, and could be delivered at the furnaces at a price to close all the mines of Cumberland and Spain. . . . During the construction of the railway, alarm kept up the excitement of expectation, and it was only after the railway was able to make delivery that the fevered state of ironmasters and mine-owners began to experience relief from the agony of suspense. Not till then could the voice of Bell be heard or heeded, or the assays of Reilly recognised. Bell was not the only man of experience in the world, nor was Reilly the only one who could analyse the iron ore of Norway or Sweden, although, perhaps, of all others the least able to find it without phosphorus.

Long before Bell had practically recognised the great superiority of Spanish ore, he had warned the ironmasters that the quality of Norway and Sweden would not do for the future wants of the trade. He presaged that from such persistent inquiry into the nature and capacity of iron, some new state of things should arise, and soon after Bessemer, Gilchrist, and others realised his predictions. The voice of Bell thenceforth gave the key-note to the steel chorus.

Steel becoming the necessity, then the assays of Reilly regained in the contest of merit, and the prices of Bilbao iron ore advanced 10 to 25 per cent.

Those who pushed their way past Reilly and Bell had then not only the mines of Norway and Sweden, but the railway of 200 miles of same on hand, and who could blame them for doing their level best to extricate themselves from such a responsibility? Now that the excitement has passed away a more calm view can be taken of the affair. To insinuate it to be a speculative undertaking would be very far from the mark, because it was really the outcome of theory and experiments dependent thereon, combined against a taciturn adherence to "practice," there being then a great contention between the two schools respecting the detriment or utility of phosphorus in iron ore.

Some experimenters advocated the complete elimination of phosphorus from iron and steel, at least, while others argued that as Nature insisted upon giving it as an essential, it should not be extracted, and that further experience would have to recognise it as a natural requisite, wisely-provided by Nature for some great usefulness; the theorists prevailed by eloquence, and the others listened. If phosphorus became the great future requirement of iron or steel, an immediate fortune would have been realised from those deposits acquired almost for nothing. The desire for such important mines fostered an unfortunate reliance upon theoretic adumbration, instead of known results as data.

Those who placed their own money acted like the doctors who swallow their own pills, of whom Shakespeare gives an ironical judgment. They could not allow the undertaking to die a sudden disgraceful death. Where final judgment is pending in a desperate case, the best advocate is procured for the defence. Similarly a very eminent mining engineer was employed to save the great iron ore Norway and Sweden scheme from ruin. The apology of Head was such an able, artful, plausible and persuasive pleading as to make it a standard authority for reference.

So adroitly managed was the advocacy of Head, that but for the presence of Bell and Reilly at the special meeting convoked for ultimate decision, the question would have been prolonged instead of finally settled, and so definitely, that whoever attempts to renew it will find not only the ironmasters, but the new Spanish deposits of iron ore, against him.

As the argument of that resolution of practice *versus* theory embraces the whole question, I propose to refer to them subsequently. I intend to point to deposits of same far exceeding those of Norway and Sweden in magnitude, and quite as free from phosphorus as the ore of Bilbao. And being of higher percentage of quality can compete with any deposits of the world, so that the ironmasters of England may have no apprehension for their future supply being confined to a few districts possessing steel ores of limited output. . . . Iron ore is an attractive useful subject, and I propose to draw attention to it in a more useful, practical way than theory has hitherto admitted of, now that practice is again asserting its substantial superiority among the ironmasters.

PARIS LETTER.

(FROM OUR SPECIAL CORRESPONDENT.)

Position of the Kaffir market—Gold mines as an investment.—A further slump in South African shares.—A new phase of the phosphate concessions.

THE experience of the past week or two has not been of a nature to calm the apprehensions of those who fear that the South African mining market is on the brink of a collapse. Upon more than one occasion lately it has been in such a precarious position that speculators and jobbers have given themselves up for lost. The intervention of the *haute banque*, however, did much towards putting the market upon its feet again, and with the clearing of the political atmosphere the outlook seemed to be more promising. But, unfortunately, the relief proved to be merely a temporary one. The financial credit of the Bourse has been too much shaken to permit of gold shares regaining full confidence, and though the leading financial houses came to the assistance of the coulissiers, and enabled them to tide over the liquidation—with the exception of five firms who failed—it is yet feared that other insolvencies are imminent. Until people are assured as to the stability of the coulisse, they are hardly likely to venture into gold mines, either as a speculation or as an investment, and some time must elapse before the market is relieved of these apprehensions. Indeed, the feeling of mistrust has been growing so much of late that a certain credence was given to the rumours as to the insolvent position of members of the parquet. The statements were absurd on the face of them, for the members of that select body have to give guarantees that almost preclude the possibility of financial failures. Nevertheless, the syndic, M. de Verneuil, found it necessary to telegraph to the exchanges in London, Brussels, and Vienna, to the effect that the rumours were utterly devoid of foundation. There is every reason to believe that these rumours, often of a scandalous character, are set afloat not by timid holders who fancy that they can see danger all around them, but by the organised "bears," who have done an enormous amount of harm to the market during the past two or three months.

The financial position of the coulisse is far from being so bad as is believed by the general body of investors. It is true that many firms are finding themselves in difficulties, but the assistance now being rendered them by the *haute banque* will enable them to keep afloat until they can reorganise their business upon a more satisfactory basis. This has already been done in some cases, and instead of the creditors sustaining great losses, they have received everything due to them. There can be no question that before long the whole of the coulisse will have regained its former position of stability, and until it does the majority of firms are holding off from gold mines altogether. The work of putting things in order will certainly be a slow one, but when carried out the mining market will be sound enough to offer every security to investors. The intervention of the *haute banque* has, consequently, saved the Kaffir circus from an irretrievable collapse, and has paved the way for a steadier and more legitimate dealing in gold mines. In fact, the recent crisis has brought home to the public more than anything else could have done the dangerous turn that speculation was beginning to take. Shrewd people had some time before seen that the game of buying for a rise was played out, and it needed a sterner lesson to teach the ordinary speculator that the day of rapid fortunes was past. The majority of people are now leaving gold mines severely alone, and are returning to Government stock, which has suffered badly for months past from the speculating craze. Others are profiting from the low values of South African shares to take them up as an investment, as amidst the general condemnation of this class of scrip as a means of realising quick and heavy profits, it is fully recognised that good shares are thoroughly sound securities, offering more guarantee even than is possible in industrial undertakings. Gold mining shares are now being taken up at their proper value, and are utilised in the only way in which they can legitimately be turned to account. The speculator's loss is the investor's gain, for good dividend-paying shares are now being picked up at a more reasonable price than at one time could have been thought possible. This manner of buying will give a more permanent character to the mining market, and a more solid basis to the mining industry, than the fictitious forcing up of prices under the influence of speculation.

It is nearly certain that gold mining shares would be much more sought after than they are at present if it were not for the anxious feeling that is entertained with respect to political questions in the East. These damp the ardour of investors who fear that the complications may take an acute turn, and until matters are arranged satisfactorily they are little disposed to place their money in foreign undertakings. Another thing that has to be reckoned with is the fact that Paris is no longer an independent factor in the mining market. Speculation being now a thing of the past, the amount of business done in gold shares is very small, and only the dividend-paying mines are, for the most part, dealt in. Consequently the market is entirely under the influence of the foreign exchanges, and is more than ever susceptible to unfavourable reports from London or Vienna. There is no longer any of the natural stability which lately made Paris independent of the fluctuations in other centres. It is this new feature of the market which is responsible for the increasing weakness during the past few days. The recovery that took place after the intervention of the *haute banque*, and Lord Salisbury's Guildhall speech, was only of short duration, and as soon as the clouds again rose on the political horizon, and London began to send bad accounts of failures and falling prices, the downward movement began, and has continued until now values are scarcely any higher than they were a fortnight ago. Unless the outlook improves very shortly indeed they will go still lower. Under this impression buyers are naturally not inclined to take up scrip, and most holders are anxious to sell. On Wednesday the fear of a "slump" was found to be justified when all classes of shares dropped to an alarming extent, but this relapse cannot be accepted as any proof of a want of confidence in gold mines themselves, because the "set-back" was even more conspicuous in home and foreign Government stock. This experience shows again that gold mines are, at the moment, affected by the general financial depression, resulting from the seriousness of the political outlook, and it would be greatly to the interest of investors if they held on to their scrip instead of selling, as so many of them are doing. After dropping to 110 francs, Chartereds finished on Wednesday at 112 francs 50 cents.; Buffelsdoorns were 94 francs 37 cents.; Consolidated Gold Fields, 292 francs 50 cents.; Ferreiras, 436 francs 25 cents.; Geldenhuis, 120 francs; Langlaates, 125 francs; Randfonteins, 59 francs 37 cents.; Robinson Mines, 232 francs 50 cents.; Shebas, 38 francs 75 cents.; and Simmer and Jacks, 590 francs. The drop was so serious that the Government again announced its intention of consulting the *haute banque*, but it is difficult to see what further steps can be taken to bolster up the market. Any tinkering with the market would be worse than useless, for the weakness is entirely due to an undefined nervousness as to the possibility of serious trouble in Turkey. On Thursday there was a continuance of the decline in values, but it was not so marked as on the previous day, and there was a growing impression that holders had become unnecessarily alarmed.

The action of the French Government in annulling the phosphate concessions granted to British companies in Algeria is likely to have graver consequences than had been foreseen. Lord Salisbury has made diplomatic representations to the Government upon the injury caused to the interests of British subjects, and though the French Minister of Foreign Affairs has replied to the effect that the question is a purely local one, and does not call for diplomatic intervention, it is hardly likely that it will be allowed to rest where it is. That the annulling of the concessions was a perfectly unjustifiable act according to every idea of international right, there can be no question, for the reason by which the British companies have been deprived of their concessions are flimsy in the extreme. M. Bertagna, one of the original concession holders, is now in Paris, and he pertinently points out that nothing was said as to the legality of concessions to British companies so long as they were not producing a profit—Messrs Packard, indeed, lost £48,000 in exploiting a phosphate concession—and the agitation was only aroused when the Scotch concerns had, by sheer dint of enterprise, made an excellent thing out of an industry that French capitalists had persistently ignored for years past.

SOUTH AUSTRALIAN LETTER.

(FROM OUR OWN CORRESPONDENT).

ADELAIDE, OCTOBER 15.

WE are experiencing a great mining boom here just now which is rapidly increasing, and seems likely to last for a few months, when probably a number of bubbles will burst, as others have done before. The eagerness with which people rush into speculation in anything connected with West Australia is surprising, while things in this or the older mining colonies of Victoria and New South Wales, which can be seen and are known as safe investments, are comparatively disregarded. It was amusing lately to read the report of a crushing of stone from the Redcastle Mine, in the Bendigo District, Victoria, and in which the manager considered it necessary to make an apology for the poorness of the return, which only gave 3 ounces 13 dwts 8 grains of gold per ton!

Nevertheless, there are a few sensible men who still believe in the mineral wealth of South Australia. I have before me a letter from an experienced gold prospector (a South Australian) who has been very successful in West Australia. He says there are plenty shows of gold in South Australia, as good as most of those found here, if the people would only believe in them and go the right way to work to prove them. He further states his belief that in no part of the world are more frauds put upon the Mine Market than in West Australia, and even their near neighbours in this colony are sometimes taken in.

Meanwhile a few sensible persons who know something of the extent and value of our mineral deposits in South Australia, are finding the funds required to develop some of the numerous gold bearing reefs in various localities. The rich discoveries in the old Echunga district are being opened up in a very satisfactory manner, and fully bear out my oft-repeated conviction that Echunga was by no means worked out.

The Blumberg and Mount Pleasant Gold Mines are attracting increased attention, and as two properties in the district have been sold in England, a fair amount of working capital is expected shortly to carry on operations. It is to be hoped these mines will be under the best possible management, both practically and commercially, as from my knowledge of them, with proper management, they should prove payable.

A great deal of interest is being taken in the large gold-bearing reefs at Angipena (about 370 miles north of Adelaide). Some persons who have seen them express the opinion that they will ultimately become the most productive of any yet found in the colony. I have not yet been able to visit them, but hope to do so shortly. There are said to be two parallel reefs extending for a length of 3 miles, and a third for about 3 miles beyond the termination of the others. Claims are pegged out the whole distance, and some of them are likely to prove highly payable, while gold is found more or less throughout. The country is very favourable for mineral deposits, and the reefs are large and well-defined; 10 to 12 feet or more is said to be the width, and returns (not assays) of 2½ ounces to 4 ounces 3 dwts. of gold per ton have been obtained.

A new and rich discovery of gold is reported from Wadnaminga, near the Victoria Tower Mine, and this will probably have the effect of re-directing attention to this promising field.

Considerable attention is manifested in the Taltabooka country, seven miles east of Wadnaminga, where several fine reefs have been opened, and practical men predict a grand future for this district—a prediction which, after inspecting a portion of the field, I am quite disposed to endorse. The country, in a mining point of view, is decidedly good, and the reefs easy to work, and carrying a payable percentage of gold—probably from one to one and a half ounce per ton of vein-stone.

A new discovery was lately announced as having been made near the old Sir Dominick and Daly mines, about 400 miles north-north-east from Adelaide. I was engaged to visit the locality and report on the discovery. It was in wild mountainous country 80 miles east of the Leigh Creek Railway Station; and at the foot of a steep hill about 600 feet in height there was a strong lode at first sight, apparently of copper ore, a quantity of green carbonate showing where the lode had been broken. On closer examination, carbonate of bismuth was seen mixed with the copper ore, and numerous strings and prills of native bismuth could be detected in much of the ore. Some lumps of the solid metal were found weighing a pound and over. I notice some slight indication of the presence of nickel also, and a subsequent assay confirmed by impression. A little gold and silver were also met with on assaying the lode stuff, and another mineral, which was believed to be rubidium. A sample was immediately sent to London to be tested in confirmation. Rubidium is quoted in the New York *Engineering and Mining Journal* at $6·25 per gramme, which is equal to £30 per ounce. It is to be hoped the whole of the large lode will contain a good percentage of this valuable mineral. The lode is five or six feet wide, and is traceable for over half a mile in length. About 300 feet higher on the hillside there is a parallel lode which has not yet been opened.

COAL MINES IN UPPER BURMA.—The lease of the Lingadaw Coal Mine in Shewbo was held during last year by the Burma Coal Company, who extracted 9938 tons of coal against 3670 extracted in the previous year. The coal was used on the Burma State Railway and on steamers of the Irrawaddy Flotilla Company and of Government. During the year the Government of India sanctioned the issue of a prospecting license over 8489 miles of country in the vicinity of the mines, and shafts are being sunk.

CORRESPONDENCE.

☞ We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.

TECHNICAL EDUCATION AT HOME AND ABROAD.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—The sons of mining men abroad can obtain the highest scientific and technical instruction gratis, or for nominal fees. The same class in England find a charge of £115, "payable in advance," at the English School of Mines. The nation pays an enormous sum yearly to *improve* the industries that win its food. The men who could and would practically effect that gradual, but daily improvement, are systematically discouraged. The story of the mining industry is the story of every industry in the kingdom, and the secret of its condition is the secret of every branch of manufacture, and every form of trade.

When Prince Albert led the movement initiated by our great Exhibition, and Brougham, Brewster, Murchison, and others awoke the nation by a notably disinterested enthusiasm, vast streams of public money were directed into new channels. The eager attention of hard-headed men of business, who never missed a means of advertisement, or overlooked a source of gain, was naturally attracted. These men had never worked a mine, managed a factory, or directed a shop. In practical knowledge of any existing industry they were absolutely ignorant, and only fitted to mislead. With powers of oratory and journalistic talent, they said to the new Eldorado "*a nous deux*," and its waters now feed a field of sinecures, an army of preaching sycophants, and a citadel of institutions that mock with sounding words and sensational theories the needs of the employer and the self-respecting working man.

The flattering of fads, the misdirection of sentiment, the cunning confusion of wholly different aims, were the means employed to deceive the taxpayer and mislead the unscientific Press. Scientific organs were created and imposed through the gullibility of scientific guinea pigs; independent scientific prints and writers were ingeniously ruined, silenced, and suppressed. The "endowment of research" in general, and of biology and astronomy in particular, became the catchword of the day.

The cleverest lecturer of the new movement proposed, with remarkable ingenuity, a scheme for "building a ladder from the gutter to the universities," and pelted daily, with the missiles collected at its foot, the guardians of rich endowments to whose hands the self-denying of all ages had wisely entrusted the savings destined to benefit the nation and not its gutters. These guardians were described as "of every denomination, the deadliest enemies of science;" to produce a Faraday or a Watt, the only process consisted in making over to the lecturer and his friends another £100,000 from the public purse. "He would be dirt cheap at the money," roared the orator, in what his latest friend and biographer describes as "a marvellous passage." With this sum he was ready to explore "the gutter," and to catch the eggs of genius which he alone could incubate, but which an inscrutable natural law had destined to perish without his personal intervention. This new mythology had, in spite of "the survival of the fittest," been imparted to him by "scientific method," by "the new reformation," and various other names for the private fetish that resides in the capacious wallet of the medicine man. Having made known the fact that he had personally despised and rejected the common elements of education, he presented new and startling interpretations of all things, human and divine, from the Cosmogony of Sanchoniation to the local government of Gadara. The parson, as his only dangerous rival, was the bogie against whom he gravely warned his audience as the gross of green spectacles was disclosed. A Peabody at the public expense thus diverted to another and incompatible purpose the funds entrusted for technical education, and a popular biologist actually obtained the Deanship of a Royal School of Mines after failing in a desperate attempt to "absorb" the School of Naval Architecture. Greenwich and Sandhurst narrowly escaped the clutches of the patron of the people; but an outrageous augmentation of the salaries allotted to himself and his abettors consoled them, at the expense of industrial education, for the failure to confiscate the national security. £1100 was allotted to biology, £800 to astronomy, and £300 to mining in the "absorbed" Royal School of Mines.

What thus happened in England has been tried and detected in France, Germany, and the United States. Precisely the same result has been made in every country in recent times. Belgium and Sweden are habitually quoted, because those alone peculiar local reasons have occasioned a temporary confusion that every mining man deplores and actively works to oppose. The technical institutions of Italy, Germany, France, and Spain, are familiar to me, and from their professors I learnt what I understand as technical education, and what I regard as science. The Rastignacs, and not the clergy, are everywhere the deadliest enemies of both.

To obtain "science teachers" fitted for the work in view, the South Kensington papers were headed "Examination for the Poor." I am not certain whether the prisons as well as the workhouses were appealed to. In any case, men were obtained whose only drawback was that after training at 30s. a week, under an engagement to act as science teachers, they frequently preferred to present themselves in the colonies and elsewhere as trained pupils of the School of Mines. The latter has become a mere means of cramming unpractical rivals to compete with the practical man.

Any mining man who to-day wishes to acquire a good knowledge of geology finds that the clause which enabled "Mine Agents and Managers of Mines" to acquire that knowledge in a museum specially adapted to their requirements, in convenient time and place, and by a payment of 30s., has been cut out of the regulations of the new school, that the teaching has been removed to a distance of over two miles from the essential museum, and that it has been ingeniously altered so as to justify a fee of £28. He will further find that the space available in the new institution is occupied by 78 persons, who are paid £1 to £1 10s. weekly to induce them to attend, by 18 persons admitted free for no reason connected with mining, and by persons who have taken degrees in biology, physics, chemistry, agriculture, and mechanics, and have nothing to do with mining. The quality of a course adapted to suit the especial wants of science teachers and of all the other professions represented, may be more easily imagined than described. "Applications for admission being considerably in excess of the accommodation which the school can afford," the Dean and Council are enabled to decide arbitrarily who shall and who shall not be admitted, and they require from all applicants a full statement of their previous studies, with the names of their teachers. It must be remembered that the humble petitioner is thus at the mercy of men who have laboured to convert the school into a college of theoretical science, and a charitable institution to fill the universities from the gutter. This strange state of things has been the consequence of the glib pretence that the new institution was prepared to afford increased and improved space for all the purposes of the Royal School of Mines. To simulate a fulfilment of this engagement, and to justify the change of salaries by statistics of increased attendance, scandalous and prohibitory fees have been imposed, and the classes filled with a paid audience.

The secondary purpose of the changes was undoubtedly to flood the country and the colonies with men fitted to disseminate the ideas of the promoter, while living on the reputation of the old technical school. He has candidly admitted that he subordinated all considerations to the development of scientific education *as opposed to* "that clericism which, to whatever denomination it may belong, is the deadliest enemy of science"—in plain English, to the object of absorbing the religious endowments. The substitution of science primers for ordinary schooling, and of the popular lecturer for the parson, was the real end in view. These objects have absorbed the funds voted for technical education, and stripped the country of the institutions most essential to maintain the efficiency of every branch of industry. The men able and willing to improve and perfect every practical trade are systematically excluded from the *facilities* which the nation alone can supply, because those facilities have been absorbed for the purpose of training those worst fitted to profit by, and least able to follow out in practice, the details that patience, experience, and opportunity can alone enable them to grasp. A registry of starving theorists, eager only for an immediate "screw," is bringing technical education into general disrepute, and rendering our country the laughing-stock of its colonies; technical colleges are made the sordid rivals and not the helping instruments of the practical man. The introduction of elementary mathematics in a school of mines is as absurd as in a medical school, and amply illustrates the character of the educational system for whose most supremely successful products this class has been introduced. Sewing and clear-starching are obviously wanting to complete the curriculum, and satisfy the aspirations of all the philanthropists concerned.

The agnostic attitude is possibly defensible if applied to new sciences, novel schemes of education, and to the dead and living apostles of intrigues in active progress; but any orator who pretends to accept nothing without scientific demonstration, has obviously received no education in the use and value of words. The most technical lectures of a Huxley teem with material to which no process of demonstration can be applied, and every detail of his public life affords an example of action based on something different from scientific method. Practical education must prepare men to dispense with both demonstration and scientific method in all matters of importance. Classical education has the immense advantage of teaching accuracy and application without exciting those predatory instincts of the untutored intelligence which render science, Byzantine, and civilisation impossible. The "intellectual education" of Huxley and his teacher is impossible in practice, while their "moral education" is only adapted to perfect the instincts of the Artful Dodger. The intelligent avoidance of one's deserts is the golden rule of both. Certainly no sensational dexterity in overhauling the subjects least connected with a man's special studies can prove his fitness to afford practical advice towards replacing by something better the religious or other machinery by which education is more or less effectually carried on.

The alternative course to that here condemned is obvious to all who have no ulterior aims to distort their view. Biology and botany should no longer attract to the School of Mines medical students and others who are amply provided for by the endowments of the medical profession; full medical training is almost essential to biologists, the private jealousies of botanists and biologists do not concern technical education, and there are strong reasons for confining dissecting rooms to medical institutions. Few can, like the late Professor Huxley, revel in a post-mortem at the age of 13. The teaching of agriculture in the heart of London is, like that of naval architecture, obviously a mere pretext for altering the name and management of the School of Mines. The training of "science teachers" is a costly substitute for what could be far better done elsewhere, were it not that something very different from a supply of really efficient teachers is aimed at. The universities and the medical schools are fully fitted to supply science teachers of a very superior class. Trifling and economical modifications of their arrangements would enable the parson and the doctor to flood the country with popular science, and the trifling assistance afforded by the funds squandered at Kensington would really aid educated men in making such teaching effective, in place of serving as a *modus vivendi* for those least fitted for such work, and as a bribe to attract incapables. Regarding those supplied by the South Kensington machinery, the late Sir A. Ramsay remarked:—"It seems to me that often the fact that they are ignorant and ill-educated is the reason why they consider themselves likely to be qualified for the office of teachers." But to represent the fourth definition of Euclid as the type of a "law of nature," or the late Professor Huxley, as "a deeply religious man," these are precisely the people required.

In place of perpetual commissions and changes devised for the interests of those who profit by plunder and labour for revolution, let us improve, adapt, and make the best of those institutions that have made us what we are. Projects to destroy, alter, and reverse the entire moral, religious, and professional education of our country are fatally opposed to any practical progress in technical education. No man who has the interests of science at heart can countenance, or assist, in proceedings, whose real character is conclusively disclosed by the case of the Royal School of Mines The graduates of that institution cannot be robbed of the consolation that their experiences provide a great object lesson.—Yours faithfully,

P. W. STUART-MENTEATH.

THE LOSS OF GOLD IN VICTORIA.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—I have to acknowledge and to thank you for your favourable critique on my report to the Department of Mines of this colony on "The loss of gold in the Reduction of Auriferous Veinstone in Victoria," published in the issue of your valuable Journal, dated August 3 last.

On some points, however, you have made, as it appears to me, rather severe comments. To those points permit me to offer a few supplementary remarks.

1. As you state, "the plants selected for examination. . . . do not represent the average practice, &c." They were selected as typical of their mode of work, with no other view than that of showing and enabling in each case a comparison being made between them with regard to the efficiency or the deficiency of their treatment, as, for instance, with respect to the "Rose," which you quote, "Ryan's Battery, &c."

2. Referring to your criticism relative to the screens (gratings) and sieves, I have to state that in sifting the parcels through wire sieves my aim was simply in general to show the proportions of different volumetric sizings without reference to the actual "Lochung," or size of the hole of the mesh, which I took for granted could easily be ascertained, and hence named and noted the sieves on the margin in the usual manner—as 30, 40, 50, &c., mesh sieve; and in that respect 0·01 simply indicates 100 holes to the lineal inch not "Lochung." The thicknesses of the wires of the sieves which I used—and it is to be presumed generally for the same meshes—are according to the B. W. G., and nearly so, practically without difference, in the New Imperial Standard Wire Gauge:—

				No.
For a	20 mesh sieve	.. ..		31
"	30 "	.. ..		33
"	40 "	.. ..		35
"	50 "	.. ..		37
"	60 "	..	about	39
"	80 "	..		41
"	100 "	..		43
"	120 "	..		45

By referring to Molesworth's Pocket Book or to W. S. Hutton's Handbook, the diameter of the wire according to the gauges is given in inches, and a few also in millimetres.

Relative to my having only stated with regard to the screens (gratings) the number of holes to the square inch, I assumed that practical men reading my report would from experience understand my statement, which is the usual manner of expressing here the fineness or coarseness of the screens—as well by millmen as by the stamper grating manufacturers.

However, as a supplementary statement—although the grade of the screens is not a constant dimension, as the bur soon wears off, enlarging the diameter of the holes; but adopting your suggestion, I may add, as the information may be of some interest to your subscribers and readers outside of this colony or continent, that here the diameter of the holes of a screen 289 holes per square inch is 23 B.W.G.; ditto 275 ditto, 23 B.W.G.; ditto 256 ditto, 21 B.W.G.; ditto 225 ditto, 21 B.W.G.; ditto 196 ditto, 21 B.W.G.; ditto 169 ditto, 21 B.W.G.; ditto 144 ditto, 20 B.W.G. These gauges may be accepted as the diameters of the holes of the gratings above-mentioned, but only "when new."

Adverting in your Journal to the remark respecting the use of blankets, in the report of the Long Tunnel Company, the amount of fine amalgam, yrites, and floured quicksilver, is noted, that had escaped fro the stamper boxes, was saved by them, and subsequently collected in McNeil's pan, after the bulk of the "pyrites" had been extracted from the crushed veinstone, so preventing it from being disseminated (verzetteld) and carried further away, which might have been the case had slime separators been placed before them immediately below the copper plates in lieu of after them, as at the Long Tunnel Company.

The introduction of Spitzlutten would, although generally the better course, imply previous classification by trommel, and then concentration by jiggers. These, as stated in the report, were not adopted, because our veinstuff does not contain a sufficient percentage of "pyrites" to warrant in that respect a more complete ore dressing plant.

With reference to the treatment of tailings by a chemical or other process, to which you think it strange that I should not have alluded, although it was matter foreign to the range or purport of the report, I beg to refer you to the last portion of the Wimmera Company's report, where three methods are specially mentioned by which tailings, according to their character, could be treated, the last one being the cyanide process.

In conclusion I request, as a favour, that you will insert in your very valuable publication these supplementary data and replies to some of your remarks and comments.—I remain, Sir, yours faithfully,

HENRY ROSALES.

Alta Mira, Grand View Grove, Armadale, Victoria, October 9.

[We are extremely obliged to Mr. Rosales for his letter, which certainly forms an important supplement to his valuable report. We were perfectly well aware that the mode of screen nomenclature used by him is the usual one, but this is not the only case in which the usual practice is far from being the most scientific; in the cause of progress we are naturally not content with anything less than the best, and our strictures were directed rather against the usual practice than against Mr. Rosales for following it.—ED. *M. J.*]

COPPER MINING IN SHASTA COUNTY, CALIFORNIA.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—Being a reader of your Journal for a number of years, I wish you to insert this epistle of how we are getting on in the Mountain Mining Company (Limited), located here in Shasta County. Being a Cornishman from Redruth, Cornwall, England, thoroughly conversant with copper mining in all its branches, I took a stroll from Keswick, where the smelter is located, on to the mines by the line of the railroad, which, when completed, will be about 37 miles in length. The mountains run very high, and the railroad is, therefore, very costly to construct, but is a fine piece of work, laid out and planned by the engineer, Mr. Shaugnessy, and the energetic manager, Alex. Hill, late of the Rio Tinto and Tartar Mines, Spain. This property is a fine mining proposition. There are thousands of tons of copper at the mines waiting for the completion of the smelter and railroad. The manager is hurrying on the work so fast that the lumber companies cannot supply the lumber fast enough. There have been hundreds of people here visiting smelter and mines; there are no locked doors at the mines to keep parties from looking at this large deposit of copper; everybody is welcome to see for themselves. The stockholders can rest assured that they have as good a property and well managed as is in the whole state of California. The people here have never seen the same system, and the magnitude of mining such as the Mountain Mining Company (Limited) will be when everything is completed. In building the railroad they have discovered another large vein of copper close by the smelter. There are plenty of places only waiting for capital to come and do the same as Mountain Mining are doing. Copper City, for instance, is well worth a visit from those wishing to invest in copper mining. All the copper mines here have a certain percentage of gold and silver. The gold production of the Mountain Mines will pay a good share of expenses, so my friends in England can rest assured that there is no danger of failure here.—Yours respectfully,

WILLIAM JOHN EADE.

The Temple Hotel, Redding, Cal., October 30, 1895.

GOLD RETURNS AND THE WARATAH GOLD MINES, LIMITED.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—In your issue of the 26th ult. I clearly demonstrated how fictitious values were generally attached to gold returns, and with equal lucidity I also contended it was high time the State should make it compulsory that all mine owners should correctly determine the exact money value of all returns instead of simply fixing so many ounces, which may realise anything between 8s. and 80s.

The action, therefore, of the Waratah Gold Mines (Limited) of North Queensland, in issuing to their shareholders such a comprehensive report seems very gratifying and commendable. Every item is so carefully estimated in detail that any share-

hold r or probable investor, however uninitiated, may, without reference or difficulty, at once determine how much he is likely to get for his money. Further, every line of the report has a solid ring of truth in it, that it not only carries conviction throughout the piece, but goes much further in forming a precedent, from which gamblers and adventurers will acquire a salutary lesson, and, doubtless, will think twice before attempting to foist upon the market any mine which is not proven on similar lines, or, at all events, with equal precision.

The channel from which all this useful information springs is evidently from the Mining Corporation, lately formed at 43, Threadneedle-street, under very favourable auspices, and it is needless to add that if they can satisfy the public with as clear a report as they have the shareholders of the present venture, they cannot fail to have a very successful career.

"A lie which is half the truth, &c.," has been the difficulty hitherto. We, therefore, welcome an institution initiated under thoroughly competent, tried, and reliable men, and would further point out that if all the rubbish now on the stocks had been sifted in a similar fashion, there had been less moaning and wailing during the present crash, which, in all probability, will be a useful lesson, in so far as teaching us that in mining, as well as in other industries, competent management must remain the important factor in all the calculations.

Gold finds of enormous value are met with occasionally, but it is the exception, and not the rule. It all goes to prove that mining, on the whole, must be in capable hands, and at the same time, though not a bit more risky than any other fluctuating and speculative business, the same rule of selection applies.

I, therefore, wish good speed to the Waratah Gold Mines Limited).—Yours, &c., D. S.

November 20, 1895.

MEETINGS OF MINING COMPANIES.

EAST POOL.

A TWELVE WEEKS' MEETING of shareholders in East Pool was held at the account house on Monday. Mr. JOHN R. BRANWELL, J.P., presided, and the accounts, read by Mr. John H. Mayne, purser, showed—labour cost £5447; Wheal Agar adventurers, coals £173, labour cost £56, total £229; merchants' bills £2470, stannary assessment £10; A. F. Basset, six months' rent, £27 10s.; Paynter and Son £72; total £8256. The credits showed—tin ore 225 tons 12 cwt. 2 quarters 24 pounds, at an average price of £37 7s. 1d.: total £8428; sales of copper ore £93, arsenic £1174 11s., discounts £60 12s., carriage £20 12s., sundries, £4, total £9781, leaving a balance of £1525. Last time there was a loss of £446 14s.

Mr. BRANWELL said the statement of accounts was certainly a pleasanter one than the last, for it showed, instead of a loss, a profit of £1525. That profit would have been larger still, only they had eleven sales of tin instead of twelve. Hitherto, and dating back to when Major Haye was purser of the mine, they were always a little in advance with their assets. They were not charged up quite so closely as they were credited with the tin, and during the present quarter it seemed they might fairly put that to rights and present an account which would be absolutely level. (Hear, hear.) As a matter of fact the accounts were charged to end of October, and all tin as raised to the 1st October, and he thought no set of accounts could be more evenly balanced than that. (Hear, hear.) It would have been very pleasant to him if he could have said the committee proposed that the profit should be divided per share in the usual way, but they knew the water difficulty prevented them. For a long time they have been looking for relief in their difficulty from their friends on the other side making Wheal Agar engine continuously available. East Pool has made several offers, the first being in regard to Wheal Agar machinery based upon the Wheal Agar valuation of their own property. That was not accepted. One or two other propositions had been made from Wheal Agar, but they so largely exceeded what men of business would consider equitable that the committee had not been able to entertain them. He understood there had been some meetings between some of East Pool's large shareholders and agents of Lord Robartes, and even with Lord Robartes himself, in regard to this matter, and it had even been proposed to Wheal Agar that East Pool should pay £175 per month for two years to keep this engine going. Mr. Hattersley, however, after conferring with Mr. Hamilton, was not prepared to entertain that proposition; and now it seemed to East Pool committee that there was no alternative but to endeavour to provide the mine with such machinery as shall be effective for the' own purposes. (Hear, hear.) To that end they will have to fund the money gained on that occasion, which will then amount to £4457. That is a very handsome beginning. Of course, if it is to be expended in providing machinery that shall afterwards be found to be in excess of the requirements of the neighbourhood, it will be, perhaps, so much money wasted. And also, in consequence of the action of Wheal Agar, if they were obliged to allow the water to go through East Pool while they are putting the mine in order for pumping the water, and are obliged, at an awkward time of the year, to discharge a number of men, the onus of that proceeding will not rest upon East Pool committee—(hear)—who would have been ready to entertain any reasonable proposition with regard to the pumping machinery. But it does not seem that those responsible for the action of Wheal Agar are open to negotiate on a business principle. That being the case grave results will follow; the water will be in, and Captain Bishop knows what that means. Of course, it has been said that Wheal Agar people desire to look around and see if they can float their mine; but it seems some nine months have expired and nothing has been done. It will be for Lord Robartes to say if that sort of proceeding is to continue to the derangement, probably, of the whole industry of the neighbourhood. They had been taunted by some papers with being a weak committee. Perhaps they were; at any rate he confessed to being a rather weak man for the last two months. (Laughter, and hear, hear.) But they proposed to strengthen the committee by asking them to elect Mr. James M. Holman to that committee. (Applause.) There might be some other gentleman the shareholders would also like to elect. He should wish to see his friend Mr. Lanyon there, but for reasons of his own he thought better not to join the committee at present. The mine had sold something like 42 tons of tin more than last time, and got an extra price of £3 17s. 10d. more per ton for it. Mr. Goddard had been good enough to say that during this emergency he will not exact dues. (Applause.) Mr. Branwell moved that the accounts be passed. (Applause.)

Mr. WOOLCOCK seconded the motion, which was carried. That day he felt great pleasure, considering the depressed times, as they had been able to make a profit, but it was mixed with a certain amount of regret that they could not judiciously divide the money among the shareholders. Most of them would desire a dividend, but seeing the danger and expense it would not be advisable.

The agents' report was as follows:—

Engine shaft: At the 360 fathom level the crosscut is driven north towards the new south lode 11 fathoms. We hope to reach the lode in about 6 fathoms more driving. The 280 fathom level west on the north lode is worth £7 per fathom. The winze in this level is worth £15 per fathom. The 265 west is valueless; 252 west is worth £9 per fathom; 240 west is worth £9, and 200 east is worth £50 per fathom.—Stopes on great and north lodes: One at the 265 worth £9 per fathom; one at the 252 worth £12; one at the 240 worth £10; one at the 200 worth £25; one at the 160 worth £10; and one at the 140 fathom level worth £15 per fathom.—Middle lode: The 240 west of crosscut is worth £18 per fathom; 240 east of crosscut is worth £9; 228 west of crosscut is worth £9; 212 west is worth £10; 200 west is worth £9; and the 180 fathom level west is worth £10 per fathom.—Stopes on Middle lode: One at the 228 worth £12 per fathom; two at the 212 worth £12 each; one at the 200 worth £11; and one at the 180 worth £10 per fathom.—South lodes: The 150 east is worth £10 per fathom; 140 east is worth £10; and the 70 west is worth £9 per fathom.—Stopes on south lodes: One at the 180 worth £12; one at the 160 worth £12; one at the 150 worth £10; one at the 90 worth £ 0 per fathom.—Tributes: We have 17 pitches working by 51 men, average tribute 9s. 3d. in the £.—CHAS. F. BISHOP, JOHN PENHALE, SAMUEL CURTIS, JOHN BISHOP.

Captain BISHOP, in supplementing his report, added that the men had done nothing during the quarter in the part where water might come from Wheal Agar, as they did not care to go there, and the agents did not care to press them. It seemed clear from their dialling that what they have been calling all along their middle lode is simply a division of their own north lode, which, although divided, is concentrating both parts again in a junction about the present position, which would be 40 fathoms from their South Crofty boundary. As the Chairman said, they most deeply regretted the somewhat serious position they were placed in that day. He knew the whole district, and knew exactly what danger is pending at this moment. He anticipated in a few days—of course, they could not tell exactly what time—that Wheal Agar water will be flowing into this mine. There is no communication, but it percolates through the fissures of the ground. Whatever may be said, East Pool cannot cope with Wheal Agar with the present machinery. He had gone very carefully into the matter. With their present pumping appliances, it would take them 12 to 13 strokes a minute to deal with the water of both mines. As one familiar with mining and pitwork from boyhood, he knew that was an impossibility, as their engine can only run safely seven or eight strokes a minute. His advice to the shareholders—advice given according to his conscience—was, if the water comes, to stop their engine and prepare to put up an engine for themselves and larger pitwork that can cope with Wheal Agar and East Pool water. In doing that there is another thing hanging on it which is most important. Had East Pool a barrier sufficiently strong to the west to keep the whole of the water within East Pool sett it would not be nearly as serious a complication. They might ask—given such a barrier, would it be a very great disadvantage to them in putting down their pitwork? He should reply "No." In that case they could clear the shaft, and as soon as possible fix their plunger lift, bring the pitwork up to the surface; and when the water was rising he should prepare himself, drop the lift, and accomplish the thing with no particular insurmountable difficulty. But they were, perhaps, not all aware how it would affect their neighbours. He had strongly recommended East Pool committee to pay Wheal Agar £100 a month for 12 months, while East Pool was getting her own machinery into position. He told Wheal Agar that was their object because it would avert the calamity that would otherwise happen to other mines; but he was literally laughed at because he was so awfully sympathetic. But when the water comes into East Pool, and they are putting the machinery in the shaft the water must flow to South Crofty and North and South Tincroft, although there is no communication between these latter points. That means that it affects the whole district. Every effort to preserve the safety of East Pool, and to keep the western mines intact, has failed. The water goes back between the 180 and the 170 in East Pool to South Crofty, and then must flow back at the 145 to North Tincroft. The efforts of the committee and outsiders have been tried and proved ineffectual, and it is now a serious position which affects the public.

Mr. HENRY ROGERS said the serious observations from their excellent manager would prepare them for the necessity of taking action. He had received a letter from Mr. Goddard to the effect that with a view to helping East Pool at this particular moment—and no person except Mr. Lanyon had done more in this crisis than Mr. Goddard—and for the benefit of the district he had consented to all the demands made upon him by the proposed new company, South Crofty (Limited), and Mr. Tyringham had done the same. (Applause.) After referring to the early history of the difficulty, he said that on October 17 a meeting of the joint committee took place at Wheal Agar Mine, and, somewhat contrary to his feelings, he yielded when Captain Bishop proposed that for 12 months East Pool should pay not less than £100 a month. This was refused, and Wheal Agar made the modest proposition that for five years East Pool should pay £2000, which would amount to £12,000, with nothing to benefit East Pool except keeping out the water; while Wheal Agar adventurers would retain their sett, to take what tin they had, and deal with it as they thought proper. Such offers could not be entertained a moment. Mr. Lanyon deserved their gratitude as a mediator, and with other gentlemen of position had done his best by meeting Lord Robartes and others. Mr. Rogers added that the time has come when lords and lords' agents appreciate the difficulties of adventurers, and help in a liberal way. He regretted having to move the following resolution:—"That recent communications with Wheal Agar on the subject of water charges, as well as the serious trespass committed by Wheal Agar on this mine, having been explained, and the necessity for more powerful machinery, it was resolved that the committee be empowered to take such measures with respect to these various matters as they may deem advisable." (Applause.)

Mr. A. LANYON felt that he could help them better by maintaining a friendly attitude to both mines, rather than by joining East Pool committee and being considered a partisan. He was most disappointed at the failure of the negotiations. He had written asking if £175 a month for two years would be acceptable, with the condition that during the first year the two companies try to come to some arrangements for allocating the water charges between the two mines. Failing such arrangement it should be imperative for Wheal Agar to keep the engine working for two years; and if during that time East Pool erected an engine to take the water, nothing would be binding on either party. Mr. Hattersley replied that Mr. Hamilton and himself would give this serious consideration, but adding that amalgamation between the two mines would be the best settlement, as there would be no future difficulty in working except the low price of tin. While awaiting an answer Mr. Lanyon had written Lord Robartes a letter in which he stated that he very much feared Mr. Jenkin had not taken so serious a view of the position as he should have done, but had presumed too much on East Pool being driven to submit to any terms Wheal Agar might propose. He believed if Mr. Jenkin had not led Wheal Agar to infer that Lord Robartes would remain passive in the matter that mine would never have refused arbitration. Since then Mr. Lanyon had met Lord Robartes and Mr. T. Robins Bolitho, and they exceedingly regretted the absence of Mr. Michael Henry Williams. At the interview Mr. Lanyon fearlessly said to Lord Robartes that he very much feared the attitude of his agent had not contributed to the settlement of the difficulty. Passing to Mr. Hattersley's reply, that stated that East Pool had never approached Wheal Agar in a business spirit, and, with its present composition, never would, East Pool had made no approaches. And whilst they appreciated the kindness of Lord Robartes (who approved of the two years offer by Mr. Lanyon on behalf of East Pool) they felt that any approaches towards a settlement must come from East Pool. An interview with Lord Robartes and his agent proved useless. Mr. Jenkin said Mr. Lanyon's fears as to the consequences of the engine stopping were absurd, and contradicted other statements. It ended in wrangling about matters on which neither Mr. Jenkin nor Mr. Lanyon were experts, and Lord Robartes was more perplexed and less able to give an opinion afterwards than before. He thought his offer to Wheal Agar exceedingly liberal, and so did those at the conference, who never supposed East Pool would have gone so far. It is certain now that East Pool has not erred on the side of stinginess. Mr. Jenkin's position at the conference was not supported by the other gentlemen present, and Mr. Lanyon advised Lord Robartes to get some outside information as to the rise of water and East Pool's intention to erect an engine. As long as the agent can successfully advise the lord, nothing can be done. Lord Robartes had told him he did not know until he got Mr. Lanyon's telegram that Wheal Agar engine had again stopped; Mr. Lanyon said "amazed" would have been his word instead of "surprised" if it were his case. In seconding the motion, he would not like to commit himself to a lawsuit against the wish of the shareholders.

The CHAIRMAN thought they ought to be very much obliged to Mr. Lanyon for his great trouble. He thought the resolution could be safely passed, as it gave them power to act on their discretion. There are circumstances in which law is necessary, but they might rely on a majority of the committee doing all in their power to keep clear of it. Still it would not do to give the world the impression that under no circumstances would the mine go to law, as that would lead those who would persecute them to kick away.

Mr. MILFORD strongly opposed litigation.

Mr. BAIN proposed the following addition to the resolution:—"In case of litigation becoming necessary, a special meeting of the shareholders shall be called to give any further powers desired."

Mr. HEARD advocated a conciliatory policy, and an avowal of his continued confidence in the committee.

The amended motion was passed with the approval of the committee.

Mr. BAIN said they had lived in times when they had seen considerable liberality on the part of the lords, and in periods when their liberality had been questioned. But it would be extremely wrong if they did not acknowledge the kindness of Mr. Basset at the present time. He proposed a vote of thanks to Mr. Basset.

Mr. JOHN MAYNE (Pool) seconded with great pleasure, and the motion was passed, the CHAIRMAN saying the committee were profoundly convinced of the propriety of the resolution.

On the motion of Mr. MILFORD, Mr. Holman's name was added to the committee.

Mr. MILFORD proposed a vote of thanks to the committee and an expression of unabated confidence in their management; congratulation to Mr. Branwell on his recovery; and thanks to Mr. Lanyon for his valuable and kindly assistance.

Mr. JAMES WICKETT, seconding, was amazed at the liberality of Mr. Lanyon's offer. He could not have conceived such an offer would have been rejected. If a calamity came he hoped the parties mainly responsible would not hesitate to step in and fill the gap. It would be a serious thing if 200 or 300 men were thrown out of work.

The vote having been passed, Mr. Lanyon said he did not think it was the fault of Lord Robartes, but due to conflicting statements placed before him. A meeting of outside mining men ought to be immediately convened as a last effort to avert serious trouble.

Mr. BRANWELL returned thanks for the kind expressions of the shareholders, and the proceedings terminated.

THE WEST RANDT ESTATES AND LAND COMPANY, LIMITED.

An extraordinary general meeting of shareholders in the West Randt Estates and Land Company (Limited) was held on Tuesday, at the Cannon-street Hotel, for the purpose of considering, and, if thought advisable, passing resolutions providing for the voluntary liquidation and subsequent reconstruction of the company.—Major-General Sir RICHARD POLLOCK, K.C.S.I., presided.

The SECRETARY (Mr. W. F. Andrewes) read the notice convening the meeting.

The CHAIRMAN, in moving the resolutions, said that the position of the company that day, both from the shareholders' and directors' points of view, was a melancholy one, seeing that they had to face the disappointment occasioned by the fact that the company's prospects were unrealised, and that the course of events during the past four or five years had made the success of the company more and more unlikely. Every effort which had been made either themselves to develop, or to get other people to develop the property, had failed. The board had, moreover, been unable to induce anyone to prospect the property on the basis of sharing profits. In the matter of arboriculture, the board had been told by experts that they could not do wrong, as a measure preliminary to mining, in spending their money upon tree planting. Here, again, their expectations had been completely disappointed. A great many of the trees planted failed because of the drought or the locusts, and those which had been raised had been unsaleable. In this respect the company were not singular, for after careful investigation he had been unable to find that in any of the plantations carried out by other people in the neighbourhood a single tree had been sold at a profit. This was partly because of the distance between the plantation and the mines, but the principal reason was that timber more adapted for mining purposes was imported from Australia, and was preferred even at the higher rates necessitated by the cost of carriage. The directors had not put the proposals for reconstruction before the shareholders without serious consideration, nor before taking into their counsels the larger shareholders, among whom there was a concensus of opinion that the scheme embodied in the resolutions before the meeting was the best they would be able to carry out. For some time past he believed the shares had had no market value, but if the scheme were adopted, they might rest assured that this state of affairs would not long continue. Shareholders would get one share in the new company for every four now held, while the farms they surrendered would be amalgamated with other farms in a larger scheme by Mr. Tapp, a gentleman well known in London, who had himself visited the property, and other surrounding properties, and who was confident of success. In conclusion, he could only repeat his conviction that the scheme before the meeting was the best they could hope to devise, and had only been put into its present form after repeated modification. His own opinion was that it offered every prospect of ensuring for the shareholders a return of from one-third to one-half of the face value of their present shares. The Chairman concluded by moving:—

1.—That it is desirable to reconstruct the company, and accordingly that the company be wound-up voluntarily, and that Walter Ford Andrewes, of 8, Old Jewry, in the City of London, be and he is hereby appointed liquidator for the purposes of such winding-up.

2.—That the said liquidator be and he is hereby authorised to consent to the registration of a new company to acquire the assets and undertaking of this company, having a nominal capital of £125,000, divided into 125,000 shares of £1 each, and with a Memorandum and Articles of Association which have already been prepared with the privity and approval of the company.

3.—That the draft agreement submitted to this meeting and expressed to be made between this company and its liquidator of the one part, and the new company of the other part, and for the purpose of identification initialled by the Chairman of this meeting, be and the same is hereby approved, and that the said liquidator be and he is hereby authorised, pursuant to Section 161 of the Companies Act, 1862, to enter into an agreement with such new company (when incorporated) in the terms of the said draft, and to carry the same into effect with such modifications (if any) as he may think expedient.

General BRUCE seconded the resolutions.

Mr. C. J. TAPP said he and his friends were considerable shareholders in the company, and he had long made up his mind that he would do his best to put the concern again upon its legs, so that he and his friends who had invested in it might get their money back. Under the proposed reconstruction the company's debts, which amounted to £10,000, would be paid off, and ample funds would be provided for the thorough examination of the property. While recently in South Africa he had visited the company's property, which consisted of a magnificent block of 16,000 acres of ground. Some of the neighbouring farms produced a rental of £1500 because of their water supply, and there was no doubt that with judicious management their own land would become very valuable. Some promising gold reefs had been discovered on a neighbouring farm, and if they ran through the company's territory they would make it very valuable.

After some discussion, the resolutions were put and carried with one dissentient.

THE BAMBOO CREEK (PILBARRA) GOLD MINING COMPANY (LIMITED).—An extraordinary general meeting of this company was held this week at the offices of Messrs. Taylor, Hoare and Pilcher, solicitors to the company, Amberley House, Strand, W.C., at which the following special resolutions, passed at an extraordinary general meeting on the 31st ult., was unanimously carried on the motion of Mr. J. Shaw-Kennedy, seconded by Mr. John C. Grant: "That article No. 80 of the company's Articles of Association be and the same is hereby altered, by striking out therefrom the names 'Louis Campbell Johnston and Percy St. Clair Matthey.'" Mr. James Wiseman, director of the Hampton Plains Company, Mr. Cecil King, Mr. Munroe, Mr. William Pilcher, Mr. Taylor, and other gentlemen were present.

SNAEFELL MINING COMPANY.

The annual general meeting of the shareholders in the Snaefell Mining Company was held on Wednesday, at the Villiers Hotel, Douglas, Isle of Man. There were present Messrs. T. FISHER, H.K., J.P. (managing director), who presided; John Quayle, C.P., William Todhunter, and R. Roney (directors); R. M. Warhurst, secretary; John Kewley, manager; and the following shareholders:—Messrs. L. G. Hannay, J. C. Cannell, and J. Boyd.

On the motion of Mr. QUAYLE, seconded by Mr. BOYD, Mr. Fisher was voted to the chair, in the absence, owing to the inclemency of the weather, of the Chairman of the company, Mr. H. B. Noble,

The SECRETARY, having read the notice calling the shareholders together, the reports and accounts, copies of which are appended, were taken as read:—

Snaefell Mining Company, November 6.—Gentlemen,—The directors herewith submit the report of the manager, which deals fully with the working of the mine during the past year. The severe snowstorm last February impeded the work very much—both at the surface and underground. The directors have pleasure in referring to the improved prospects of the mine, owing (1) to the continuance of the valuable discovery made in the 141 fathom level early in the year, and (2) to the steady improvement in the price of lead. The development work in their bottom level, the 171, which, in October, 1894, they expected to be carried through into ore ground in about 15 months, viz., January, 1896, they still expect to be down by that time, although the work underground during the past year, owing to the severe snowstorm and other causes, has been interrupted for nearly two months. The directors, who retire by rotation, are Messrs. H. B. Noble and J. Quayle, who are eligible for re-election.—THOS. FISHER, Managing Director.

MANAGER'S REPORT.

Snaefell Mine, October 7.—To the Directors:—Gentlemen,—I beg to hand you my report and statement of work done in the mine during the past year. Number of fathoms driven on the course of lode, 148 fathoms 1 foot 6 inches; crosscutting, 3 fathoms 4 feet 6 inches; rising, 4 fathoms 1 foot 6 inches. The 141 end has been driven 33 fathoms further north, and is now 420 fathoms north of shaft. The lode in this level has varied from 6 to 12 feet in width, and yielded an average of 3 tons lead and 10 ozts. of blende per fathom for the distance driven, and this is the present value. On the east branch of lode in this level we have driven north 6 fathoms 1 foot 6 inches on a nice lode, yielding 20 cwts. of lead and 5 cwts. of blende per fathom. This place has been suspended for some time. The 171 fathom level has been driven 110 fathoms, and is now 210 fathoms north from engine shaft. The lode has been large and of a promising character, and at times yielding some good stones of lead and blende, but not in sufficient quantities to value. At a distance of 25 fathoms north from present forebreast we expect to cut a good lode going below sole of 141 fathoms level, which at that point yielded 3 tons lead and 10 cwts. blende per fathom. During the months of July and August we were again troubled with the air in the mine, and to amend it we erected a wooden chimney from the mouth of adit level a distance of 150 feet up the side of the mountain, and I am pleased to say it has considerably improved our ventilation. I am of opinion that it will prevent the reappearance of bad air for another summer. All our machinery and pitwork are in a good state of repair.—I am, gentlemen, your obedient servant, JOHN KEWLEY.

My monthly inspection of the mine enables me to confirm the above report.—F. REDDICLIFFE.

The CHAIRMAN said: Since our last meeting there has been a change in the management of the mine. Captain Andrew having left us, we, through the kindness of our neighbours—the Great Laxey Mining Company—obtained the services of Captain Reddicliffe as consulting engineer, and I am glad to be able to report that the new arrangement is working very well indeed. In accordance with my usual custom, before formally moving the adoption of the reports and the passing of the accounts, which have been in your hands for some time, and which, I suppose, as usual, we will take as read, I wish to make a few observations on both. Looking at the accounts, you will notice that our capital account has been increased during the past year to the extent of £3000, of which increase your directors have taken more than one-half, showing plainly what they think of the value of the mine. I do not think it necessary to go in detail into the profit and loss account, as everything in the past year, as in preceding years, has been conducted with the greatest economy; in the face of such depression as we have gone through this has been absolutely necessary. One item I will mention—our royalty. Early this year your directors appealed to their landlord—the Commissioners of Woods and Forests—who met us most handsomely, and agreed upon a differential royalty. The terms are so favourable that upon the prices we obtained for our lead ore this year the royalty is only 1-80th. Thirteen years ago our royalty was 1-12th. (Applause.) I am glad to say that the price of pig lead, which this time last year was £9 15s. per ton, is at present £11 12s. The price we received for our lead ore this year is 18s. 5d. per ton more than last year, and for our blende 2s. 2d. per ton more. Coming now to the underground work, as you will notice from our manager's report, our efforts during the past year have been mainly directed to the extension of the 171, our bottom level, northwards, to get under the ore ground which we know lies before us. This work has been prosecuted with great energy, this level having been driven 110 fathoms north in somewhat less than ten months. Considering that the whole of the work underground, owing to the heavy fall of snow and other causes, had been suspended for more than two months, the progress made has been better than we anticipated, as at our meeting last year we expected 15 months, viz., January, 1896, to get into ore ground; and I am very hopeful, even with the delay we have had, to be in good ore ground in our bottom level in January next. If we cut good ore, as we fully expect to do shortly in our bottom level, we will have, what we have never had before in the history of the mine, 30 fathoms of "backs" to take away. To show you what this means, all the ore ground we have taken away since 1887 has been considerably under 30 fathoms in height, and out of that ground we have taken more than 8000 tons of ore, which has been sold for between £45,000 and £50,000. When we remember that our 130 fathom level was better than the 118, and the 141 richer than the 130, I do not think it is unreasonable to expect £50,000 worth of ore in the 30 fathoms of ground between the 141 and the 171 fathom level. At our meeting last year for raising more capital, I told you that the only work we intended doing was to push the bottom level forward to get into ore ground; with this qualification, that so long as the 141 end would pay costs, or about pay costs, we would continue it, as, judging from the level above, I felt very hopeful of that ground. Well, our work in that level for some time was not encouraging; we drove to the west branch of the lode for some distance with poor success; then on an east branch, which, although better than the west, did little more than pay expenses. Our manager then discontinued the east branch, and went back to where the two branches seemed to separate, and put in a short crosscut further west, with the result that he cut into a splendid bunch of ore, which as you will see from the report, he values at 3 tons lead, and half a ton of blende per fathom. We are very hopeful with regard to this discovery. We do not know the value of it, as we neither know the length, height, nor depth of it; but we do know that we have already taken more than 300 tons of ore out of it. You will see from this that our prospects underground are distinctly brighter, and also brighter at surface, owing to the improved price of lead. If these favourable conditions continue, I shall be much surprised, and very disappointed, if next year the class D shares do not get a dividend. (Hear, hear,) I now move that the directors', manager's, and auditor's reports be received and adopted, and the statement of accounts be received and passed. (Applause.)

Mr. BOYD seconded the motion.

The motion was put and carried unanimously.

The CHAIRMAN: The next business is the election of directors. The retiring directors are Mr. H. B. Noble, the Chairman, and Mr. John Quayle. They are both eligible for re-election.

Mr. Noble was re-elected on the motion of Mr. CANNELL, seconded by Mr. BOYD; and Mr. Quayle on the motion of Mr. HANNAY, seconded by Mr. CANNELL.

The CHAIRMAN: Our next business is the re-election of auditor, a matter that rests entirely with the shareholders. Mr. W. J. Craige has been our auditor for some years.

Mr. Craige was re-elected auditor, on the motion of Mr. HANNAY, seconded by Mr. BOYD.

It was decided that the next ordinary general meeting of the company be held on the third Wednesday in December, 1896.

The CHAIRMAN: Before I close the meeting, I must thank those gentlemen who so kindly forwarded proxies to the directors, thus showing their confidence in the management of the mine by the board. I thank them heartily for that confidence.

Mr. HANNAY: I now move a vote of thanks to the directors for their services to the Snaefell Mine during the past year. I only hope the Chairman's expectations and hopes of a dividend will be realised, not only by the holders of the D, but also by those who possess other preference shares. (Hear, hear.)

Mr. BOYD seconded the motion, and it was carried with applause.

The CHAIRMAN: I thank you on my own behalf and that of my colleagues for your kind vote of thanks. I may say it is the only recompense we get. I have been a director for about 20 years, and I have been managing director for more than five. I remember well when I was appointed managing-director; one of the conditions was that for the first six months I was to receive no salary.] I need hardly tell you that that condition has been most religiously acted upon ever since—(laughter)—and, gentlemen, I can assure you it will be adhered to until you shareholders get a dividend. (Applause.) Perhaps I am hasty in saying we get no return; but this morning I received a letter at the office, which I will read to you. It is from a shareholder I have never seen, and do not know. He is an old shareholder, and resides in England. He says: "I have pleasure to return 'proxy' herein. I hope the steady adherence of the directors to develop the mine will, at no distant date, be crowned with success. The fact of their referring in their report 'to the improved prospects of the mine,' from two causes—first, the continuance of the valuable discovery made; and, second, the steady improvement in the price of lead—brightens the hope of the distant shareholders that a golden future is before them, and that the sanguine hopes of our retiring directors are soon to be verified. To them, I feel, the shareholders owe a large debt of gratitude. I hope I may have the pleasure of viewing the mine next summer." (Applause.) I thank you, gentlemen, and assure you that all the directors will do their best in the future, as in the past, to make the mine a success. (Renewed applause.)

The meeting then ended.

ELKHORN MINING COMPANY, LIMITED.

An extraordinary general meeting of the Elkhorn Mining Company (Limited) was held on Monday, at Winchester House, for the purpose of considering resolutions providing for the voluntary winding up and reconstruction of the company.—The Hon. A. G. BRAND presided.

The SECRETARY (Mr. C. Pakeman) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—In asking the shareholders to assent to the resolutions of which notice has been given, of course we, the Elkhorn board, regret extremely that the old Elkhorn Mine, which has paid such handsome dividends, should, according to the reports received from Mr. Molson, indicate that an end will come to its producing power in the course of three or four months. During the last few days I have read some letters in the financial newspapers with regard to our scheme, and I have also here a letter from a gentleman residing in Birmingham, who asks me to take note of his objections to this reconstruction. His objections, and those in the other letters to which I have referred, all follow very much on the same lines, and I should like to point out to the old Elkhorn shareholders that we do not force this reconstruction upon them, asking them to take shares in the new company, at the rate of one new share for every five old ones, but that we offer them the option of taking a sum in cash to be fixed by arbitration hereafter, or one share for every five in the old company. The board believe that in offering you those terms they are offering you considerably better terms than you will get if, as suggested by several shareholders who have written to the papers, the working of the mine is allowed to continue in the ordinary way up to the very end. Of course, if these resolutions are carried and confirmed, we shall work the mine up to the latest possible moment that it produces with a profit; but we confidently consider that in offering you this option we shall be offering you better terms than you will get if you continue to work the mine out, and do not accept the proposal we place before you to-day. The new property proposed to be acquired is in a very famous district in America, in the State of Colorado—the Leadville Mining camp—from which district a sum of 40 millions sterling has been obtained during the last 15 years. Absolutely the next mine to the one we propose to acquire—I refer to the Alpha—which has only a surface area of half an acre, yielded last year the sum of $300,000 in the space of six months. Many of the shareholders have remarked on the fact that a considerable portion of the new property is leasehold, and they contend that we are offering a too considerable sum of money for leases that have only three and five years to run. We placed those points before Captain Plummer, and asked him to give us as distinct an assurance as he could that the mine would do what the vendors had stated it would—namely, produce a sum of money equal to 100 per cent. upon the priority shares of the new company within 12 or 18 months. Captain Plummer has distinctly replied to us in his report that the mine will do all that has been said of it provided sufficient developments are made. Now, I should like to ask your very serious consideration to this point. We placed before the vendors the terms of Captain Plummer's report, and said: "Supposing these developments take longer than is contemplated, that will take off from the lease and from the available time that is before us." We came to this arrangement with them, which has been embodied in the agreement—namely, that if the priority shareholders do not recover 100 per cent. from the Fitzhugh Mine in 18 months, they will give us an extension of the lease for at least a further period of 18 months; so that the priority shareholders are assured that as regards the Fitzhugh Mine, which we believe to be the most valuable portion of the property, we have, at any rate, obtained a minimum lease of 18 months after 100 per cent. has been paid to you. At the same time the vendors tell us—and I can say I do not believe a mine has ever been brought before the public in London or elsewhere from a more respectable source than this—that that extension will not be asked for, as we are perfectly certain to get that amount of money from the mine before the 18 months are over. Captain Plummer says, in his report, with regard to the freehold property: "Evidence is abundant that a large amount of ore will be available, all bearing towards the claims north," which is towards the Evans Donelly claims; and while the directors believe, from enquiries made, that they are acquiring a leasehold property of immense value, they also have very confident hopes that the freehold property will, when properly developed, prove of even more value than the Fitzhugh Mine, and that it will be a handsome producer for a very considerable period. With regard to the cash which we ask you to assist us in paying for these leases and this freehold ground, not one penny goes to the vendors. This is paid under an option for the developments that have been made, and they get nothing but the deferred shares. The property will come straight from the vendors to you without any underwriting, advertisements, or other expenses whatsoever, and I certainly have never known a mine offered in such a way to shareholders in the City of London before. There is absolutely nothing between the vendors and the shareholders—no intermediate profits whatsoever. We believe that if you acquire this property it will pay you from the very moment we obtain it, in the same way that the Elkhorn did, and our opinion is that it will be as good or even a better property than that has been. I earnestly trust that the directors, who have had such cordial relations with the Elkhorn shareholders from the commencement, will be supported in what they are now proposing to do. I now beg to propose:—(1) "That it is desirable to reconstruct the company, and, accordingly, that the company be wound up voluntarily, and that Charles Pakeman, of No. 6, Drapers' Gardens, Throgmorton Street, in the City of London, the secretary of the company, be and he is hereby appointed liquidator for the purposes of such winding-up, with the present board of directors as an advisory committee." (2) "That the said liquidator be and he is hereby authorised to consent to the registration of a new company, to be named the New Elkhorn Mining Company (Limited), with a Memorandum and Articles of Association, which have already been prepared with the privity and approval of the directors of this company." (3) "That the draft agreement submitted to this meeting, and expressed to be made between this company and its liquidator of the one part, and the New Elkhorn Mining Company (Limited) of the other part, and the same is hereby approved, and that the said liquidator be and he is hereby authorised, pursuant to Section 161 of the Companies Act, 1862, to enter into an agreement with such new company (when incorported) in the terms of the said draft, and to carry the same into effect with such modifications as he may think expedient."

Mr. J. W. HART, in seconding the resolutions, stated that an important alteration had been made in the proposal before the shareholders since the circular was issued with regard to the extension of the leases. Under the first arrangement the leases would expire in about three years, but it had now been made a condition that the priority shares must be paid off in full, and that the deferred shareholders should have full power and control over the property after that for a further period of 18 months, in addition to which they would have all the advantages to be derived from the freehold property. Up to the present time £50,000 of the capital required had been applied for, the directors themselves having taken a considerable interest. They had also ascertained from other sources that further applications would come in. In one of the letters in the newspapers it had been insinuated by one shareholder that the directors promoted the reconstruction for the purpose of retaining the fat office they had occupied. In reply to that insinuation, he only wished to remind the shareholders that three years ago they proposed to give a gratuity to the directors of £2000, which the board declined to accept. (Hear, hear.)

Mr. H. TOWN enquired whether a different arrangement could not be made which would give the present shareholders a larger interest in the new company than that proposed.

The CHAIRMAN replied that the directors would have very much liked to have made a better bargain if they could, but in making the present bargain they had stretched matters to a point which resulted in the negotiations nearly being broken off.

Mr. TOWN stated that the scheme appeared to him to be rather one-sided. He had attended many meetings at which reconstructions of mining companies had taken place, but never remembered one where a scheme had been submitted which gave the shareholders such an inadequate proportion of shares, considering the risks they ran. They were practically asked to provide the cash for this new concern, and yet they were only to receive one share for every five of their present holding. He dissented from the idea that their present mine was worked out. It was true that the ore at the lower levels had pinched out, but it was possible that larger ore bodies might be met with by further development. He was, therefore, of opinion that they should continue working their property, and that the property in Colorado should be floated as a separate company, giving the option to their shareholders to come in.

Mr. BALL observed that he entirely disagreed with the last speaker, and considered that the directors had got the best terms they could for the shareholders.

Mr. BEATON said the question really before them was what was the relative value of the Elkorn Mine and that of the mine they were virtually asked to amalgamate with. They had it on the authority of the most competent expert that the life of the Elkhorn Mine was drawing to a close, and they had assets of £35,000, while the property with which they were asked to amalgamate consisted of 13 acres of leasehold and 50 acres of freehold. At Fitzhugh there was one of the finest equipments in Colorado, capable of handling 500 tons a day, and there was a formation there which justified them in anticipating that they would be able to take out a very large quantity of ore, sufficient to pay 100 per cent. on the priority shares within 18 months. He was personally prepared to take up a large number of the new priority shares if they were not applied for by the shareholders. He believed that in adopting the scheme they would be doing for themselves not only the best thing, but an unexpectedly good thing. (Applause.)

The CHAIRMAN said he thought Mr. Town had been answered by the gentleman who had just sat down. When Mr. Molson, in whom they all had the greatest confidence, stated that the life of the mine was approaching its end, they were bound to believe him, though of course they would have been delighted had they been able to continue to pay the handsome dividends which had been declared in the past.

The SOLICITOR having explained the agreement, the resolutions were put, and agreed to with practical unanimity.

The proceedings then terminated.

HARRIETVILLE GOLD MINING COMPANY, LIMITED.

An ordinary general meeting of shareholders in the Harrietville Gold Mining Company (Limited) was held on Wednesday, at the offices of the company, 6, Queen-street-place, the chair being occupied by the Chairman of the company.

The SECRETARY (Mr. John Garland) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—We are now met together at the seventh ordinary general meeting of this company, and, as you are aware, we have up to the present met with adverse fortune. All our capital has been spent in proving and prospecting upon this Harrietville Mine, and although in every case we had definite hopes of a profitable issue, those hopes were disappointed from time to time, and the directors and shareholders dissatisfied with the results achieved. In the beginning of this year we had practically arrived at the end of our tether, and it is not too much to say that the directors were practically in despair as to the future of this company. Our very efficient manager, Mr. Davey, to whose energy and ability I take this opportunity of paying a compliment which is well deserved, has constantly, as you will see by the report presented to you, urged your directors to make some attempt to raise fresh capital to continue prospecting the mine at various points which he indicated. The definite nature of this advice decided us to make an attempt in the direction he proposed, and with that view, as you will recollect, we have approached the shareholders in our report with a view of raising this necessary capital. Since your directors decided to do this a new and most agreeable surprise has come upon them. This surprise is not one of those which in so many cases are brought to the knowledge of the shareholders merely as a bait, but it is apparently a most genuine discovery. We did not ask for it; it came of itself. I do not think it will be necessary for me to describe in my own words what that discovery is, but by reading to you the actual telegram received from our manager, I think I shall convey the exact force of it, and when I am done I am sure you will agree with me that it would be, in the words of our manager, a thousand pities that we should let this valuable property go for the want of a few thousand pounds. (Hear, hear.) I will read now from the mine report of October 11, 1895. This is the original letter:—"Since operations were suspended in the underground workings, a man has been employed as watchman on the mine, to look after the machinery and tools. I also instructed him to do as much prospecting on the surface as he could. He has from time to time discovered a number of auriferous veins, which, on being developed, proved to be of little importance. On the 4th inst., however, he discovered a rich vein of quartz on the Tiddledee leases. This has since been developed for a length of 50 feet, and is found to be 2 feet in width, and to average about 2 ounces of gold per ton. The actual length of the shoot has not yet been ascertained, as the lode continues to be equally auriferous, and to maintain its size, at both the north and south ends of the present working. A trial crushing of 25 tons has already been taken out, and appearances at the mill more than justify my estimate of 2 ounces per ton. This shoot is 250 feet east of the old Tiddledee, and although a number of surface cuttings have been made in former days, above and below it, there was, until now, no suspicion of its existence. It is well-defined, and consists of almost solid quartz, and there seems no doubt that it will hold

its own for some considerable depth. It can be easily reached from the deeper tunnels (F, E, and D), so that very little dead work will be necessary to develop it. I have paid the reward of £50 to the discoverer, and this has stimulated others to prospect on the company's leases. I have had three applications to-day for permission to prospect, and it is highly probable that other discoveries may soon be made." I may point out as one result of this that although the actual crushings do not quite come up to the 2 ounces, yet knowing what we do of Harrietville ore, that it is not absolutely free, it is very possible that the smaller mill result may prove to be simply due to the nature of the ore, and there may be in the tailings some more gold. That is my conjecture. Following this came the telegram dated October 15:—

"Result of first milll test: The recent discoveries, Tiddledee Mine, 28 tons 60 ounces. The vein improves as it goes down."

Since that we have had two telegrams—one from Mr. Davey, dated November 11, as follows:—"The second mill test Tiddledee Mine 0 tons, 106 ounces. A fine prospect." The last telegram we had was almost too good to be true, and I must ask you not to base too much hope upon it, because we all know that in mining fluctuations occur. In a telegram dated November 18, received from Mr. Davey, he says:—"Tiddledee Mine: The recent discoveries crushed during the week 18 tons, yielding 118 ounces." That is about 6 ounces per ton. "There is a shoot of pay-rock about 60 feet long, average width 3 feet. I estimate the value of the ore at 30 dwts. per ton." That is the general total if you take the whole of the shoot. "Sunk 45 feet on the vein. Likely to turn out very valuable. Vein has all the promise of being permanent. Driving toward shoot for the unnel east." The series of telegrams, in my opinion, and I hope in yours, appears to point to the possibility of a prosperous future. I do not want you to go away with the idea that this is an El Dorado that we have come upon. In mining you never know what may be in the future, but with these genuine telegrams from our superintendent, giving actual results, we are more than justified in asking you to put your hands to so small an extent into your pockets, and assist us in finding by this reconstruction the capital which is absolutely necessary in order that we may continue working this valuable property. I shall not weary you with any further remarks at the present time, but will ask Mr. Taylor to describe to you briefly some of the actual workings at the mine. The Chairman concluded by moving the adoption of the report and accounts.

Mr. JOHN TAYLOR said: Gentlemen—I have much pleasure in seconding this resolution. The circumstances under which we meet to-day are certainly very peculiar. Our superintendent, Mr. Davey who must by this time have acquired a most complete knowledge of the veins of this district, has for some time past impressed upon us the advisability of making a further trial of the great Mons Meg shoot, which we have all heard so much of for some years past, at a greater depth before abandoning this mine, upon which we have spent so much money. He also does not hesitate to recommend a further prosecution of the explorations on the shoots in the Mount St. Bernard Mine—veins which are absolutely untried below the level down to which they were worked by the former workers, and from which very large profits were obtained. Now fully concurring in this view of Mr. Davey, the directors, as our Chairman has told you, had already actually taken into consideration the question as to how funds for this purpose could be raised, when unexpectedly came this welcome news of the discovery of a rich shoot of ore. Now, whatever the mines of the Harrietville district may be when worked to a considerable depth, which, so far has not been proved, we all know that the reefs have been very rich at the surface and down to a certain distance. In the Mount St. Bernard Mr. Davey tells us that, although the mine was only worked to 280 feet, profits of something like £100,000 were realised. Now, there is undoubtedly a great inducement to pursue the exploration of the reefs in the Mount St. Bernard Mine, but I need not enlarge upon that, as all the particulars are very fully given by two reports from Mr. Davey, which have been circulated amongst the shareholders with the report of the directors. There is also the further development of the Mons Meg shoot, which Mr. Davey recommends, giving his reasons very clearly in the report. The deepest working in that mine is in what is called the main winze, which is 135 feet below the deepest tunnel. I believe this is from 750 to 800 feet below surface. Here, at the deepest point in the bottom of the winze, the lode shows indications of improvement, and for the last few feet is more auriferous than hitherto. It is not, however, to these deep explorations that we are now looking, and I should by no means counsel any expenditure upon these works; but we are advised that we should concentrate all our efforts upon the new discovery, of which we have recently received such satisfactory accounts by cable, and also by the letters received this week. It certainly appears that there is everything to warrant us in taking the most hopeful view of this new discovery. It is not possible that as yet much work can have been done. The depth sunk on the vein is only 45 feet, but already 106 tons of quartz has been milled, yielding 284 ounces, or over 2½ ounces to the ton. Mr. Davey says in the telegram that he estimates the value of the ore at 1½ ounce that, as I understand it, being his expectation for the total quantity of rock found throughout the shoot he has discovered. You will readily understand that the profit accruing from working such rock should be very large. We have the actual figures here of very large quantities of ore that we have milled from time to time at the Harrietville mill, and the actual figure of expenses paid both in Australia and in London comes out at £1 5s. per ton for mining, milling, and everything. The gold is of very high quality, and has sold at an average price of £4 1s. 0½d., so that you see there is a very large margin of profit, indeed, to be realised on 1½ ounce per ton. From the last telegram and other we can define within a very little the position of this new find, which appears to be about 250 feet east from the old Tiddledee Mine, and called the north end of our property. It can be attacked, as we are told, by the tunnels F, E, D—the latter, the D tunnel, which is the deepest, being, I should consider, from 300 feet to 350 feet deep in this part of the property, and we understand within about 250 feet of the shoot. The drivage of these levels to the new shoot is a matter of vital interest to us all. We have had very many difficulties to contend with in this company's history. I trust, gentlemen, this discovery may prove a forerunner of much better things in store for us in the future. My brothers and I hold some thousands of shares in this company, and we shall most certainly take our proportion, and we shall be quite prepared to take up a larger number than our proportion if they are available.

Mr. FERGUSSON said: Gentlemen—Being a considerable original shareholder in this company, the simple question with me was whether I should be wise in consenting to the proposed re-construction, involving me in a large liability for calls, or whether it would not be wiser to throw up the sponge and run away. Well, gentlemen, after the fullest consideration, I have come to the conclusion that I should be very foolish not to allow myself another chance of getting some return for my money instead of losing it, as I must do, by not going in for the reconstruction. If I do not consent, my money in this business will be lost irretrievably, even if other shareholders, with more pluck and perseverance, continue to work the mine and make a great success of it, as is quite on the cards. For myself, I have never quite despaired of this Harrietville property from the time when at our meeting on July 4, 1890, I made some remarks about it; and now at last the good time seems to have come, judging by the recent rich discovery, and the very satisfactory telegram informing us that 60 tons of the quartz have yielded 106 ounces of gold. Mr. Davey also assures us that the rich "vein improves as it goes down"—a most cheering and highly important announcement. But what about Mr. Davey and his antecedents? Well, those who have been best able to form an opinion have assured us at a former general meeting that in Mr Davey "we have an excellent and practical manager;" and I have experience enough of Messrs. John Taylor and Sons to feel quite certain that they would have got rid of him long ago if he had not proved himself to be a good man. Accordingly, I feel sure that we shall be wise in doing what Mr. Davey and our directors and Messrs. John Taylor and Sons advise, viz., "continue operations at certain promising points in our extensive and undeveloped property." But this cannot be done without money, which certainly cannot be raised for the purpose in any better way than by reconstruction, for which I shall vote unhesitatingly, and I hope we shall do so unanimously, and that large dividends will in due time reward us for our perseverance.

The CHAIRMAN then put the motion for the adoption of the report and accounts, which was carried unanimously.

On the motion of the CHAIRMAN, seconded by Mr. FERGUSSON, the retiring directors, Messrs. C. K. Steuart and Francis Retallack, were re-elected.

The auditors, Messrs. Cooper Brothers and Co., were also reappointed.

Subsequently, an extraordinary general meeting was held, at which, on the motion of the CHAIRMAN, seconded by Mr. FERGUSSON, resolutions were passed voluntarily winding up the company for the purposes of reconstruction, the new company to be constituted with a capital of £150,000 in 4s. shares, with a liability of 2s. per share.

The CHAIRMAN, in answer to Mr. Lewis, said that the shareholders in the company would certainly have preference in subscribing for any shares which might remain unallotted.

Mr. JEPPS proposed a vote of thanks to the directors and Chairman, saying the shareholders had every reason to congratulate themselves upon the fact that their affairs were in the hands of men of business who knew how to adapt themselves to altered circumstances.

Mr. FERGUSSON seconded the resolution, including, with the assent of the mover, Mr. Davey and the staff at the mine within its scope.

The vote having been unanimously carried, and briefly acknowledged by the CHAIRMAN, the proceedings terminated.

THE PROSPECTORS' ASSOCIATION, LIMITED.

A meeting of the Prospectors' Association (Limited) was held yesterday, at Winchester House, Old Broad-street, under the presidency of Mr. CHARLES E. HOGG, for the purpose of sanctioning the declaration of a dividend.

The SECRETARY (Mr. B. R. Harris) having read the notice convening the meeting,

The CHAIRMAN said: Ladies and gentlemen—You have heard the notice read, and I think that the purpose of the meeting is one that must meet with your extreme approval. It has been convened with the primary object of allowing the directors, with your permission, to declare a dividend, and one, I think, of almost unprecedented magnitude. This company was formed and went to allotment only two months ago. As regards its origin, I may say it was created without the blazoned noise of trumpets; but quietly and in a business-like manner we proceeded to form a company with the object of conducting explorations for gold mines in West Australia, as well as for the purchase of, and dealing with, properties there to what we anticipated would be the advantage of our shareholders. But though at the time we looked forward to proper and reasonable success, we had no reason to believe and to hope that within two months of the date of allotment your directors would be able to meet you, and to ask you to give them permission to declare a dividend on the ordinary shares at the rate of 600 per cent. per annum, and on the founders' shares at the rate of 240 per cent. per annum. I am not sure, but I believe I stand in almost a unique position. I have read carefully the reports of meetings in connection with West Australian companies where dividends have been declared, and they have at all times been highly satisfactory, and in many cases extremely so, but I have not read of one instance where a company so soon after its formation has been able to call its shareholders together for so admirable a purpose. (Applause.) When our statutory meeting was held I had no reason to anticipate I would have the pleasure of meeting the shareholders here again until at least some eight or nine or even 12 months had elapsed. You may judge then how extremely happy in mind are your directors when they are able, after so short a time as two months, to meet you and convey to you what they cannot help feeling is such good intelligence. The business of this company is to acquire properties by discovery or purchase, and to re-sell them or refloat them, or for any other purpose, so long as it is legitimate, by which this company may make profits. We intend to carry out the objects for which the company has been formed. (Hear, hear.) You may have seen recently that I had the pleasure of presiding at a meeting of the Golden Arrow Company; and by a negotiation equally favourable to all concerned we are enabled to obtain in the first instance, by way of dividend, £10,000 in shares of the St. George's Arrow Company, which will be merged in the course of a few days in the Golden Arrow Company, and it will be shares of that company of which we shall be placed in possession. If you have read the reports you will have observed how highly all persons authorised to speak were able to speak of the property in which we are now to hold so considerable an interest. The Golden Arrow mine, and the St. George's, of which I spoke just now, are no unproved properties, but are genuine, proved properties, the reef having widened from the surface, where it measured 2 feet 6 inches, down to 150 feet, where it was 8 feet wide; and, as the cables we have received from our engineer, Mr. Leslie Norman, uniformly and consistently declare, the property is improving as depth is attained. I have been over a very considerable portion of the Coolgardie Gold Fields, and am able, therefore to make, to some extent, a reasonable comparison, and I unhesitatingly say that in the Golden Arrow, plus St. George's Arrow Mine, the owners possess a property of almost unrivalled and unequalled value. (Applause.) The adjoining claim, the Hill End, on which the same reefs have been discovered and proved, is the only one on which a battery now exists, and it is pleasing indeed to find that they are putting ore through that battery, which yields an average of something like 14 ounces or 15 ounces to the ton. That is phenomenal in any country, under any system, and in every circumstance. Passing now to the main object of this association, which is to prospect and discover new mines, I may say we were enabled to obtain the services of Mr. T. H. Hewitt, one of the discoverers of Kurnalpi. He then represented a company in Australia, in which I was a director, which had the prophetic and truthful name of the "Success Association," for I can assure you that he made it eminently a success, and I have reason for stating that for an outlay of a very few hundred pounds he acquired for us properties which certainly are represented as having a marketable value of £100,000. These properties are held in Australia and by Australian companies, with the exception of Kurnalpi, which is held in England. Mr. Hewitt has been instructed to thoroughly equip a party, to spare no reasonable expense to guard against any failure, and to take such steps as he, in his discretion as a man of experience and as a born and educated explorer, may deem necessary to make the undertaking, which we have placed in his hands an unprecedented success. The directors do not desire to hamper him in any way, nor to instruct him at the distance he is from us; but, having absolute reliance in the man we have selected—the man who has already made a success—we feel that we are safe in entrusting the interests of the company in his hands. We have sent from England to assist him Captain Viall, who held for a considerable time the highly responsible post of Transport Officer in the British Army in the Afghan War. He was, therefore, accustomed to those gentle creatures the camels; and he will also be available for all business connected with the transport of machinery and provisions which would otherwise have to occupy the attention, and not wisely, I think, of Mr. Hewitt, who must devote his time to the discovery of gold reefs, and not to the mere details of transport. Mr. Hewitt has the additional advantage of being accompanied by one of the most intrepid women I have ever read about. Let me read you a few lines of what Mr. Hewitt says in writing to me. She writes:—"I am most anxiously awaiting till my husband has completed his arrangements to start out, as I intend accompanying him on his travels. I will keep you well posted as to our doings when we are all ready to start. I intend getting a photograph of the whole party taken on the eve of departure. I am forwarding you by next mail photographs of the Success Company's battery and condenser, with certain persons represented in the picture standing in front." She goes on to state:—"But while the natives are a very starved-looking race, but the view of the group I am sending you is not so bad, as I look after some of them very well. They take me out specking sometimes"—that is picking gold off the surface as one sees it—"and we are always successful in obtaining a few colours. Sometimes I have obtained some nice little nuggets up to 2 ounces apiece. I sold a collection of our specking last week for £45." I merely read Mrs. Hewitt's letter to show you that having a good man, we also have a remarkably good woman at the head of affairs. Mr. Hewitt is by this time equipped, and his party is at present on the eve of departure. He is thoroughly filled with the earnestness and necessity of making it a success, and I have no reason to doubt for one single moment that this man will fulfil the expectations formed by your board, and I believe that we should hear within a very few months of what he has done, and what we may expect. Now, I have heard it asked: "Is not this prospecting business being overdone?" In answer to that, I will say that we are not talking about a country either as beautiful or as small as England. We are talking about a vast unmeasured wilderness. I can assure you that I have been through that wilderness for hundreds of miles, and so dense in most parts is the timber and the undergrowth, and so covered over by the reefs are alluvial that a man can walk over them, and near them, and pass them aside, although they may be only a few yards away. This map (exhibited) is divided into small squares, but each of those squares represents 3600 square miles of territory—equal to a German principality. It is not likely, therefore, that within our time any of the prospecting of Western Australia will be completed, or, indeed, advanced very materially. At present there are certain known rich belts which have been proved to exist, but we must remember that three years ago those belts were not known to be there. If they are there why should they not be everywhere? There is no reason to suppose they are not. Quite the contrary. All the mineral belts in Australia as a rule run nearly all north and south. In the Eastern colonies, with which I am very familiar, they have kept the Eastern boundary right up from Cape York, and right south to the southernmost point of Victoria, and probably and reasonably the same principle of nature exists in Western Australia. Therefore, when we say we despatch prospecting parties out, you must remember we are sending out a small party of men into a trackless and vast district which they cannot under any circumstances fully and thoroughly explore or discover if they live to be a thousand years old, and keep at it the whole time. My mind is thoroughly at rest with regard to the area to be explored and with regard to the opportunities that our explorers will have. I now come to refer to the third string to our very good bow. Your directors, after careful consideration, determined to purchase, upon remarkably good terms, a mine situated at Mount Margaret, known now as the Mount Margaret Reefs. That mine contains an area of 36 acres, and I would like to call your attention to the weekly reports that are being received from our manager on the mine, who has taken possession of the properties, and, therefore has—not that anybody else has—no object in being either pessimistic or optimistic. He says:—"There are several large reefs in each of the three Mount Margaret reefs blocks, which have not yet been tested or developed. The caps of the reefs are found and stripped by the alluvial men working the ground and these often get covered up again." In the next report he says:—"Mount Margaret reef, where worked, assays up to 8 ounces, but could get stone that would assay up to 20 ounces. The big assays are usually misleading. I dollied the stone myself and got these results." (Applause.) In his next week's report he says:—"Have found gold in the solid lode in both Mount Margaret South and Mount Margaret North. (We own three blocks.) Am putting on full complement of men from October 1." In the following week's report he says:—"I have got payable gold in the Mount Margaret reefs north and south. This should be good news for the owners." He has heard by this time that the company has entered into possession. Now, I cannot help thinking that these reports are eminently satisfactory. (Hear, hear.) Your directors in the very brief past have, I think, led this company up to a measure of success. Reading, as I have just done, the report of the Mount Margaret, their lastest venture, I think you will be able to accord them praise, not only for a brief measure of success, but for continued success. I am not in a position just now to divulge to you a negotiation which is proceeding with regard to the Mount Margaret reefs, but should it eventuate in the manner that I have reason to anticipate it will, I am not at all sure that a dividend equal to the one we have just declared will not be at the disposal of your directors within two or three months. (Applause.) All we ask in the pursuance of our business is the warm and hearty support of our shareholders. We have already, I feel, obtained the confidence of our shareholders, and, speaking on behalf of my brother directors, we intend to hold that confidence. We intend in future, in all probability, to ask you to increase our capital so that we may extend our operations, for the country we are dealing with is so vast and its possibilities so great, and starting as we have done with a small capital, we are showing you that we are capable of dealing with your money in a businesslike manner. Therefore we will come to you, possibly at no very distant date, feeling every confidence that you will entrust to our keeping larger sums, so that our operations can be on a larger scale, though possibly not—indeed, it is hard to expect that any operations will be—on a more successful and more satisfactory scale than those which I have had the honour just now to lay before you. (Applause.) I beg to propose:—

> That this meeting empowers the directors to declare a dividend at the rate of 600 per cent. per annum on the amount of capital paid up on the ordinary shares, and at the rate of 240 per cent. per annum on the founders' shares.

(Applause.)

Mr. G. A. DIENER seconded the resolution, and congratulated the directors and the shareholders on the unique success of the company in so short a time. He was quite satisfied that there was not another company in England or elsewhere which could show such success. (Hear, hear.)

The resolution was carried unanimously, and cordial vote of thanks to the chairman and directors closed the meeting.

KABOONGA COMPANY (LIMITED).—An ordinary general meeting of shareholders in the Kaboonga Company (Limited) was held yesterday at Winchester House.—Mr. J. A. Travers, who presided, in moving the adoption of the report and accounts, said that since the last meeting a large amount of work had been carried out, but unfortunately the results had not been as satisfactory as was expected seeing that they had not yet found the payable gold for which they were searching. After clearing out their levels the efforts of their staff were concentrated on the south-east lead, where they found that the rise formerly put up had collapsed, and it was judged best by the local board and the manager to block it up and continue the lower level for some distance forward and test the ground by means of bores to reach the wash. A satisfactory point having been reached, a rise was put up and the gold bearing wash was found. The character of the wash showed that they had not yet entered into the main river bed, and they entered into negotiations with the owners of the adjacent property with a view to obtain the ownership of, a partnership in, or a right to work the adjoining ground. Eventually they were successful in obtaining about 270 acres of ground, which had formerly been proved. If the management found gold they were to pay 8 per cent. as a royalty; if they found nothing they would have to pay nothing. In conclusion, he could only say that he regarded the terms upon which the property had been acquired as highly satisfactory to the company, and he looked forward to some excellent discoveries.—Mr. Alten seconded the motion for the adoption of the report, which was carried.

THE CHAMPION REEF GOLD MINING COMPANY OF INDIA (LIMITED) have sold the gold produced in September for £23,285 14s. 3d.

DIARY FOR NEXT WEEK.

Monday, November 25.

Antioquia (Frontino) Co. (Limited), Gresham House, 12.
Hannan's Main Reef Gold, Winchester House, 12.
London and Westminster Australian Exploration, Winchester House, 12.
Western Explorers (Limited), Winchester House, 12.
Gwanda, Rhodesia Consolidated Development, Winchester House, 2.30.
Hannan's Oroya Gold, Winchester House, 2.30,

Tuesday, November 26.

Ejudina Gold Mines (Limited), Cannon-street Hotel, 2.30.

Wednesday, November 27.

Agency Land and Finance (Limited), Winchester Ho., 12.
Menzies Gold Estates (Limited), Winchester House, 12.
Taitapu Gold Estates (Limited), Winchester House, 12.
Ashbourne Gold Mine (Limited), Winchester House, 1.30.
General Hydraulic Power (Limited), Winchester Ho., 2.30.
South Kalgurli Gold Mines, Winchester House, 2.30.
Appalachian Exploring Company, Winchester House, 3,

Thursday, November 28.

Smelting Company of Australia, Winchester House, 1.
Colombian Hydraulic Mining, Winchester House, 2.
Pahang Corporation (Limited), Winchester House, 2.30.

Friday, November 29.

Golden Leaf (Limited), Winchester House, 12.
Woodstock Gold Mining, Winchester House, 12.
Woodstock (Transvaal) Gold, Winchester House, 12.
Mysore West Gold Company, Winchester House, 2.30.
Golden Horse Shoe, Winchester House, 3.
Mysore-Wynaad Consolidated, Winchester House, 3.

"ON THE SO-CALLED 'SELECTIVE ACTION'

Of very Dilute Solutions of Cyanide of Potassium used in obtaining Gold and Silver from Ores and other Compounds."*

By JAMES MACTEAR.

It has been stated in one of the MacArthur-Forrest patents that "in practice we find the best results are obtained with a very dilute solution, or a solution containing or yielding an extremely small quantity of cyanogen or a cyanide, such dilute solution having a selective action such as to dissolve the gold or silver in preference to the baser metals."

To most of those who have been engaged in investigating this process, or who have followed the recent litigation, the precise meaning of this assertion has been somewhat of a difficulty, the only definite explanation of which so far given has been the statement in the Judgment of the Court of Appeal, here given *verbatim* that—"a strong solution attacks the baser metals without attacking the gold, whereas a weak solution is feeble and *nil* on the baser metals, but attacks the gold."

This, no doubt, seems to be a very definite assertion, but, when one begins to examine the actual facts, it is seen to be incorrect. As a matter of fact, no statement has ever yet been made—and supported by experiments—to prove that a strong solution "attacks the baser metals without attacking the gold," nor that the action of "a weak solution is feeble and *nil* on the baser metals, but attacks the gold."

The strongest claim that has yet been made and supported by experiment is not that indicated by the above quotation from the judgment in the Court of Appeal; but only, that as a general rule, a strong solution while dissolving the gold will also dissolve the baser metals, and that a weak solution in dissolving the gold will also dissolve the baser metals—in both cases a much larger actual weight of base metal than of gold being dissolved, but in the case of the weak solution less base metal in proportion to the gold is dissolved, than is the case with the strong solution—the ore submitted to the solutions, and the length of time during which the action of the solution upon the ore is allowed to continue, being the same in both cases.

It has been ingeniously argued, on the other hand, that while the "selective action" mentioned in the patent does not mean that strong solutions do not dissolve the gold, but dissolve the baser metals, and that weak solutions do dissolve the gold and not the baser metals, it does mean that the proportion of gold to base metal found in the solution is generally much larger in the case of dilute solutions than it is in the case of strong solutions as used in the treatment of ores, and, therefore, the result is, that a greater concentration of the gold is obtained by the use of dilute solutions.

In discussing the question it is necessary to bear in mind the fact that two types of action are involved. Firstly, the action of chemical affinity (a term most of us will be quite satisfied to use, although advanced chemists may consider it obsolete, as it is a convenient expression to explain certain chemical facts); and, secondly, the action of such chemical affinity assisted or modified by an electric current.

Before dealing with these separately, it will be necessary to define what is meant by the term used in the patent specification, "the baser metals."

It may be accepted that this term refers not to the baser metals in their metallic form, but in the form of their natural compounds as they are generally found associated with gold and silver in their ores. Were it otherwise, and the baser metals in their metallic form were meant, then it is evident that the "selective action," as defined in the Court of Appeal, has no existence as regards the metals, but that the action is simply one of chemical affinity where the particles of metal are so placed in the solution that they do not form an electric couple. In other words, that the action is simply that of the cyanide solution upon the metals.

Experiments on the effect of cyanide of potassium solution on plates of the metals were made by Dr. Gore, and the results of such experiments, with a solution containing 1·86 per cent. of cyanide of potassium, equal to 0·74 per cent. of cyanogen (within the limits given of very dilute solutions in the MacArthur-Forrest Patent, at 60° Fahr., were published in the Proceedings of the Royal Society, vol. 37, p. 284.

The table there given shows the absolute proportionate weight of the various metals dissolved or "corroded" from one square inch of surface in one hour. Taking the amount of gold dissolved as 100 parts, the following are the proportions for the metals named:—

Aluminium	1055
Zinc	600
Copper	588
Silver	177
Gold	100
Tin	66
Nickel	55
Iron	Trace
Platinum	Trace

* A paper read before last Wednesday's meeting of the Institution of Mining and Metallurgy.

It will be seen at a glance that gold is in the middle of the table, and that aluminium, zinc, copper, and silver are more readily soluble, or, in other words, the "selective action," so far as these metals are concerned, is in their favour, and against gold; while tin, nickel, iron, and platinum are all less soluble, and as regards these metals the "selective action" will be in favour of gold.

Of all these metals, silver and copper alone may be considered as existing naturally in the metallic state in gold ores in appreciable quantity, and both of these are shown by the table to be more readily soluble than gold, and so far, therefore, the "selective action" of dilute cyanide solutions upon gold and the baser metals, where the action is not assisted by an electric current, may be dismissed without further consideration.

It is a very different matter, however, if we accept the wider interpretation of the term "the baser metals," and take it to mean the natural compounds of the baser metals as they are found with gold and silver in ores. In this class will fall to be included such compounds as the oxides, carbonates, chlorides, sulphides, and sulphates of the baser metals.

We may assume that the compounds of the baser metals which are to be found in the gold and silver ores are chiefly those of iron, zinc, copper, and lead. These are the only ones which may be considered as practically affecting the question of "selective action" in the treatment of ores.

Dealing with these in their order, experiment has shown that the action of cyanide of potassium solution on freshly precipitated oxides of iron, zinc, copper, and lead is much greater than it is upon gold. As an illustration of this, equal quantities of freshly prepared oxides, precipitated from the sulphates, were treated with cyanide of potassium solution, of varying degrees of concentration, for 24 hours, in the presence of very finely-divided metallic gold. The strength of solutions employed was—

	I.	II.	III.
Cyanide of potassium in 1000 parts of solution	5	20	50
Equal to			
Cyanogen in 1000 parts of solution	2	8	20
Proportion of gold dissolved (No. 1 taken as 100)	100	237	550
Proportion of base metal oxides dissolved	100	100	100

It will be observed that the proportion of base metal oxide remained constant for each of the three strengths of solution, the explanation of this fact being that the whole of the oxides were dissolved in each case, while the proportion of gold dissolved by the solutions increased with the strength of the solution, the whole of the gold, however, not being dissolved even in the case of the strongest solution.

The relative proportions of base metal oxide to gold dissolved in this experiment were—

	I.	II.	III
Gold dissolved (taken as 100)	100	100	100
Base metal oxides dissolved	1,920	650	281

It is evident that in this case the base metal oxides (freshly prepared) were much more soluble than the gold in the dilute solution, and that such "selective action" as existed was in direct variance with that claimed for the dilute solutions in the MacArthur-Forrest patent.

It may be argued that an experiment with freshly prepared base metal oxides does not fairly represent the condition in which the ores are usually found in nature. This is so far true, but in the carrying out of the process in practice, in many cases the treatment of the ores with alkaline solutions has the effect of producing hydrated oxides which are readily dissolved by cyanide of potassium, as in the above experiment.

It is true that in the case of some of the native oxides the rate of solution by cyanide of potassium is very much slower; for instance, in the case of a very rich gold ore containing over 21 ounces of gold to the ton, and iron, in the state of oxides = 1·202 per cent.

It was found that by treating the powdered ore with a solution containing 1·22 per cent. of cyanide of potassium (equal to 0·49 per cent. of cyanogen) for 24 hours, the quantity of the solution being equal to half the weight of the ore, the amounts dissolved were:—

	cz.	dwt.	gr.
Gold	7	0	22
Iron, calculated as ferrous oxide	7	1	12

showing practically the same amount of gold and of ferrous oxide dissolved in 24 hours.

There is little doubt that had the relative amounts of gold and ferrous oxide dissolved been determined after the treatment of the solution had continued for (say) 6, 12, and 18 hours, it would have been found that the proportion of ferrous oxide to gold was greater for the shorter period.

In the case of the carbonates of iron, copper, zinc, and lead, the amount of such carbonates dissolved by a dilute as well as by a strong solution of cyanide of potassium is very much greater than that of the gold or silver present with them, all the more so if oxygen be absent, and the "selective" or "discriminating" action is entirely the reverse of that mentioned in the patent.

As regards the chlorides, the presence of any appreciable quantity of base metal chlorides in gold ores is so rare that it may be neglected, but should chloride of silver be present, it is dissolved much more readily than the metallic gold.

The base metal compounds most commonly met with in gold ores are the sulphides of iron, copper, lead, and zinc, in the form of iron and copper pyrites, galena, and zinc blende. In the case of these sulphides, very considerable differences are met with in regard to the rate at which they are dissolved, their physical condition as well as their chemical composition affecting the action of the solution of cyanide of potassium upon them. Whatever the strength of the solution, its action is complicated by the presence of alkali as caustic or carbonate of potash, either present originally in the solution, or produced in it by the reactions taking place in the process. This alkali acts on the sulphide in certain cases, complicating the reactions, but experiment shows that as a general rule the amount of base metal dissolved is much greater than the gold or silver dissolved, even where oxygen is present. Thus, in the case of clean unoxidised iron pyrites containing gold equal to 11 dwts. 10 grains per ton, the finely powdered ore was treated with half its weight of a solution containing 1·22 per cent. cyanide of potassium (equal to 0·49 per cent. cyanogen) for a period of 24 hours. The relative amounts of gold and based metal sulphide dissolved were—

	ozs.	dwts.	grs.
Gold	0	8	14
Iron as FeS_2	41	13	0

the percentage extraction of the gold being equal to 75·6 per cent., while 78·7 per cent. of the cyanogen had been used up.

In the case of oxidised ores we have to deal with base metal compounds in the form of sulphates, nearly all of which are soluble in water. So far as regards these soluble sulphates, it requires no experiment to prove that there can be no "selective action" in favour of gold when a dilute solution is used in a case where even water will dissolve the base metal sulphates without dissolving the gold.

The presence of alkali in the solution also affects the result, as the soluble sulphates are decomposed with the formation of carbonates or oxides of the baser metals, which are acted upon by the cyanide solutions as described above.

So far we have been dealing with the question of solvent or chemical action only, but it is impossible to discuss the matter from this point of view alone, and it is necessary to consider the question of the "selective action" of dilute solutions upon ores as involving the effect of electric action also. For instance, a mixture of particles of metals cannot be treated by cyanide of potassium solution without bringing into play the action of the galvanic couples thus formed, nor, indeed, can a mixture (say) of sand containing particles of zinc and gold (although these be not in galvanic contact), be treated with cyanide of potassium solution without the formation of galvanic couples and the consequent complication of the action, for as the gold enters into solution and is diffused throughout it, it comes in contact with the zinc, which precipitates it, and thus forms the galvanic couple.

So far as the solvent action of cyanide of potassium solutions, assisted by the electric current, is concerned, it has been known for many years that dissimilar metals, when coupled together and immersed in solution of cyanide of potassium, give an electric current.

The experiments of Gore and Skey carried our knowledge somewhat further, and gave the electromotive order of the metals in solutions of cyanide of potassium. The following is the order given by these experimenters:—

Gore. 0·625 KCy. = 0·25 Cy. Temp. 50° F.	Gore. 2·85 KCy. = 1·14 Cy. Temp. 50° F.	Gore. Temp. 100° F.	Skey. KCy. = Cy. Temp. °F.
+Zn	+Zn	+Zn	+Zn
Cu	Cu	Cu	Cu
Sn	Sn	Au	Sn
Ag	Au	Ag	Ag
Au	Ag	Sn	Au
Hg	Pb	Hg	Pb
Pb	Hg	Pb	Hg
—Fe	—Fe	—Fe	—Fe

It will be observed that there are certain irregularities in the order in which the metals are placed in the above table, and the author has made three several sets of experiments, with the view of ascertaining the cause. He has found that in the case of silver and gold the action is very slight, and it is difficult to decide as to which should be classed as the most positive metal, but as silver is found to separate gold slowly from such solutions, it should be classed as positive to gold. With tin also the action is very slight, but it is abundantly clear that in all cases certain of the baser metals are positive to gold and silver and certain others are negative to gold and silver.

If galvanic couples of these metals be formed and placed in solution of cyanide of potassium, the negative metal will be protected from attack, while the positive metal will be dissolved; and the precipitation of gold and silver from such solutions by aluminium, zinc, and copper is a good illustration of another form of this galvanic action.

The application of the action of the electromotive force, shown in these tables, to practical metallurgy made by Skey, was to indicate that, where cyanide of potassium solution was used in gold milling with the idea of brightening the mercury and aiding amalgamation, it dissolved any salts of mercury, the formation of which had caused the flouring. The mercuric cyanide thus formed, when brought in contact with metallic gold, dissolving it rapidly, while the mercury was reduced.

Skey further points out that most, if not all, of the sulphides occurring in nature are negative to the series of metals given in the above tables, and in confirmation of this the author's experiments have shown that a very considerable current can be obtained from a series of galvanic elements composed of gold, with galena or pyrites. Not only so, but peroxide of manganese and magnetic iron ore give a very distinct galvanic current in cyanide of potassium solution when coupled with gold.

Kobell ("Anzeigen der Munchener Academie, J. Pr. Chem. L. 76") suggested employing the relative conductivity of minerals for the galvanic current as a mineralogical character, and he classed amongst the good conductors "the native metals (tellurium excepted) fahl-ore, mispickel, galena, pyrrhotite, copper pyrites, magnetite, graphite, and many others." Where these minerals are associated with gold or silver in solution of cyanide of potassium, so that the particles are in galvanic contact, the electric current set up will have the effect of protecting the negative element at the expense of the positive element, which, in this case, will be the gold or silver.

Such an action is entirely comparable to that which is taken advantage of for the protection of copper sheathing on ships by the use of the copper-zinc couple, where the zinc is dissolved while it protects the copper from going into solution. Another example of a similar application is the use of sheets or pieces of zinc in steam boilers, to reduce or prevent the corrosion of the iron.

If we now consider how this galvanic couple action affects the question of the so-called "selective action," there can be but little doubt that the solution of the gold is considerably accelerated by such an action. In the first instance, it may be well to place beyond doubt the fact that an electric current does very materially facilitate the solution of gold by cyanide of potassium.

An experiment was made as follows:—A dilute solution containing 1 per cent. commercial KCy was placed in a glass beaker, 6 inches diameter, to a depth of 6 inches. Two iron rods, 1 inch diameter were immersed to a depth of 3 inches in the solution, and kept 3 inches apart. An electric current, with an intensity of 6 volts, giving 1 ampere of current by actual measurement, was passed through the solution. A sheet of gold leaf, held between two pieces of muslin, was immersed in the solution between the poles; it immediately began to dissolve visibly, and within 1¼ minute had practically all disappeared.

An exactly similar experiment in every way was made without the electric current, the sheet of gold leaf, however, in this case, taking over 10 minutes to dissolve.

Another experiment was made as follows:—The solution was of the same strength as before, the poles were iron plates, the surface immersed measuring 3 inches by 1 inch on each pole. These were placed 4½ inches apart, and a leaf of gold was floated on the surface of the solution between them; a current of three-tenths of 1 ampere was then passed, and in four minutes the gold was almost entirely dissolved, a few small fragments remaining, probably having been slightly greasy.

An entirely similar experiment was made with a leaf of silver, which dissolved very rapidly and completely, and another experiment was made with fine gold dust sprinkled upon the surface of the solution, where it floated and gradually dissolved.

It will be observed that in none of these experiments was there any actual contact between the gold and the anode or cathode through which the electric current was passing, but the electric action was an indirect one. The effect of the electric current, where the gold forms the anode or cathode, is, of course, well known from the ordinary practice of electro-platers.

That a very considerable galvanic action is produced by galvanic couples of the natural sulphides of the baser metals and gold or silver is shown by small battery cells, in which galena and silver, iron pyrites and silver, zinc blende and silver, are arranged as galvanic couples, the current pro-

duced being sufficient, with a battery of one or two cells, to speak for itself through an electric bell, and also to drive an electric motor.

It may also be noticed that such galvanic couples may readily be formed in the case of gold ores by the gold coming in contact with small particles of metallic iron worn off the shoes and dies of the stamps, the wear of which often amounts to from 2 to 3 lbs. of iron or steel per ton of ore, a quantity enormously greater than the amount of gold usually present in an ore, such as is treated by the cyanide process.

The results of a large number of experiments of the action of cyanide solutions of varying strengths upon actual ores might here be given, but the author has found that the results obtained with different ores vary so much that it is necessary to consider each ore by itself.

There is, however, no doubt that if the action of the cyanide solution be arrested immediately the gold has been dissolved, the dilute solution will be found to have dissolved—in the case of most ores containing sulphides—less of the baser metal compounds than will have been dissolved by the stronger solution. But this naturally follows, there being even in the most dilute solution employed an enormous excess of cyanide of potassium over the amount required for the solution of the gold, the excess cyanide, of course, exerting its solvent action upon the base-metal compounds. For example, the most dilute solution indicated in the MacArthur-Forrest patent is to contain 2 parts of cyanogen to 1000 of water. If such a solution be used to treat an ore, such as Transvaal tailings containing 15 dwts. of gold per ton, there will be present about 160 times more cyanogen than is chemically required for the gold dissolved. Further, the amount of oxygen present in dilute solutions in the form of dissolved air or oxygen is known to be greater in dilute than in strong solutions; and from this cause, as well as the greater mobility of the weak solutions, it would fairly be anticipated that the action of such more oxygenated dilute solutions would be greater upon gold or silver than that of the stronger solutions. The recent work of Maclaurin has placed this beyond doubt.

One illustration may be given. A gold ore, containing a small percentage of iron pyrites, was treated with a solution containing 1·22 per cent of cyanide of potassium (equal to 0·49 per cent. of cyanogen) for a period of 48 hours. The solution was tested for the amount of gold and iron dissolved, and the figures—calculated to 100 parts of gold in solution—were:—

Gold	100 parts
Iron	1450 „

It seems, therefore, it could easily be foreseen that a solution containing no great excess of cyanide of potassium over that needed to dissolve the gold would dissolve more of it from the ore in proportion to the baser metals than a solution containing a large excess of cyanide of potassium which would act more upon the baser metals, and that the galvanic couples, formed of the sulphides, &c., associated with the gold in the ore, would materially aid in the solution of the gold.

Further, as to the "concentrating" action. Starting with the fact that cyanide of potassium in dilute solutions was known to be a good solvent for gold, but not for base-metal sulphides, can it be a surprise to find that on treating an ore with such solutions we obtain a larger proportion of the gold dissolved to that of the base-metal compounds compared with the amounts originally present?

Surely it is a mistake to call this a "selective action" in favour of the gold. The answer to the statement, as given in the judgment of the Court of Appeal, with which we started, that "a strong solution attacks the baser metals without attacking the gold, whereas a weak solution is feeble and *nil* on the baser metals, but attacks the gold," is entirely contradicted by the results of both experimental and practical working of the process, which show in almost every case that the action of solutions of cyanide of potassium, whether strong or weak, is to dissolve a much larger actual weight of base metal compounds than of gold, while the electro-chemical action set up by the formation of galvanic couples plays a most important part in the reactions that take place, the effect of which has not hitherto been sufficiently recognised.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ALASKA MEXICAN.—A cablegram from Alaska reports the clean-up for the month of October as follows:—"Period since last return, 31 days; bullion shipment, $21,306; ore milled, 6814 tons; sulphurets treated, 134 tons. Of bullion there came from sulphurets $7027. Working expenses for period, $13,502."

BUFFELSDOORN ESTATE AND GOLD.—Production for October 2049 ounces, 70 stamps, 17 days; the board having decided to clear up at the end of the month, instead of the 10th, as hitherto.

BROKEN HILL PROPRIETARY.—The following cable has been received from Melbourne:—"Dividend of 1s. per share declared, payable on December 18, the books for which will be made up on the morning of the 4th of that month."

BROWNHILL PROPRIETARY.—The following cablegram has been received from Captain Vaudrey:—"Mine superintendent reports: Lease 992, favourable news. The width of the vein (is) 6 feet; the reef assays in gold 2 ounces per ton."

CRIPPLE CREEK GOLD FIELDS.—The company has offered the position of engineer and manager of the properties owned by it in Cripple Creek to Prof. von Rueean, the American expert, and has received a cablegram from him accepting the position. The company also received a cable from Cripple Creek, stating that a new strike has been discovered on the properties.

CRIPPLE CREEK EXPLOITATION SYNDICATE.—The board are now in cable communication with Mr. Walton, their managing director, who arrived at Cripple Creek on November 7, and has since been engaged in inspecting several first-class properties on behalf of the syndicate. Mail advices are expected in a few days with full particulars.

CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA.—The following telegrams have been received from Western Australia:—From Mr. Calvert: "Next boat is leaving November 28 for the north-west. Roe telegraphs good progress is being made on Nicol main shaft. Reports are favourable from managers, Peewah, East and West Mallina under exemption." From Mr. Roe, Star of the North:—"Lode proved depth, underlay 80 feet, tunnel driven along course of lode at this depth 120 feet, showing lode all the way, average 18 inches, fully 2 ounces. No. 2 underlay shaft 27 feet 14 inches. Prospects 10 to 20 ounces 100 tons grass fully 2¼ ounces sold with lease, if completed this month. 18 tons crushed yesterday 2 ounces 18 dwts. per ton; can vouch myself for this. 18 acres about 1½ mile from Breen and Wilson's; Government well supply quite close; sending 100 lbs. stone mail adjoining claim; crushed 20 tons, yield 40 ounces; can thoroughly recommend; you need not be afraid."

DAY DAWN BLOCK AND WYNDHAM.—The directors have received the following cablegram from the general manager at Charters Towers, giving the result of the crushing for the fortnight ending November 16:—"Tons crushed, 1060; yield of gold, 1020 ounces; approximate value, £3520; fortnight's expenses, £1800."

ELKHORN.—Bullion produced in the mill for week ending November 16, 9500 ounces.

EXPLORATION COMPANY.—The directors have received the following cablegram from Mr. H. E. Perkins, manager of the Geldenhuis Deep (Limited), Johannesburg, dated November 20:—"Geldenhuis Deep mill foundations are very satisfactory; laying the foundations second 100 stamps precisely in the same way. A lack of Kaffirs alone prevents working all the time; we have had 300 Kaffirs; require 1000. This necessitates stoping with air drills, and reduces grade ore through breaking undue amount of waste rock. Have milled 4800 tons from dump, and 7000 from mine, assays average 9⅛ dwts. per ton; recovery (*sic*) poor at first; a large amount of gold absorbed by the plates. Returns now increasing; cyaniding started, very satisfactory. Expect low returns this month owing to absorption of gold by solutions and zinc. Regarding value of mine, my opinion is unchanged. I consider it will give results anticipated when working under normal conditions."

GOLDEN DUNDEE.—The manager cables:—"A trial crushing of 20 tons, raised under my personal supervision, has yielded 20 ounces. I consider it quite satisfactory; still crushing."

HANNAN'S PROPRIETARY DEVELOPMENT.—The following cabled information, dated the 18th inst., has been received from Mr. George Gray by the Colonial Finance Corporation:—"The transfer of the property signed yesterday. Struck fine body of ore at 70 feet on the Lady Forrest. Lode in bottom of shaft in Oroya East 120 feet depth, 12 feet thick; not through it; can pan out gold. There is an abundant water supply."—Official Note: Assays of ore from the above properties have been made, and have yielded 4 ounces and 10 ounces respectively of gold per ton.

KINSELLA.—The directors have received information by cable from the manager to the effect that the first trial run of the mill gave a result of 93 ounces 12 dwts. of gold from 94 tons of ore.

JACKSON GOLDFIELDS.—The directors have received the following cable message from their general manager at the mine:—"We have struck first-class ore, north drift, 4 feet wide, milling 5 dollars 51 cents. per ton bullion. Report sent by mail of November 16."

MAY CONSOLIDATED.—The following cable message, dated Johannesburg, November 14, has been received at the London office:—"The profit for the past month (October) was £6360."

MCKENZIE GOLD MINES.—The following cablegram has been received from Mr. F. J. Nicolas, the company's consulting engineer:—"New shaft. Have cut the vein. The vein is small, 8 inches, exceedingly rich. Some very fine specimens. To provide against fraud during the absence of Mr. Welch (the company's mine manager) have taken the men out of these workings. Letters sent explaining."

METROPOLITAN.—During October crushed 4472 tons, obtained 1119 ounces of gold, from tailings 797 ounces. Total, 1916 ounces of gold.

MYSORE WEST AND MYSORE WYNAAD.—The following telegrams have been received from the companies' representative and the manager at the mine:—"Have just come up from the mine; mine is looking well; lode in bottom of shaft dipping east. 450 level north driven 423 feet, the width of the lode is 1 foot 6 inches, equal 12 dwts. per ton. The ore in the stope now measures 4 feet, equal 10 dwts. per ton. Intermediate south the width of the lode is 12 feet, equal 1 ounce 10 dwts. per ton. New lode in bottom of shaft; the width of the lode is 7 feet, 2 ounces per ton; have driven 28 feet in lode since. The lode looks exceedingly promising; the whole of the machinery for the mill is on the ground and in course of erection."

MOSMAN.—The directors have received the following cablegram:—"North Australian Reef 2 feet thick. Have raised 30 tons, which I estimate to yield 5 ounces per ton."

MYSORE GOLD.—The directors have received a cablegram from Mr. Hancock as follows:—"We have struck very promising quartz 1160 feet level north of Rowse's shaft, assaying 1 ounce 5 dwts. per ton, width not yet determined."

NEW GUADALCAZAR QUICKSILVER.—The production of quicksilver for the past week, as cabled from the mines, amounts to 2300 lbs., equal 30 2-3rds flasks.

NEW GORDON DIAMOND.—A telegram from the general manager states that the new machinery is working well. Last week treated 2350 loads of 16 cubic feet, yielding 468 carats of diamonds, valued at £925. With full complement of native labour can treat five times the quantity of loads.

OURO PRETO.—This company has received a cablegram, giving the October returns as follows:—"Passagem Mine, 4137 tons produced 1586 ounces.—Raposos Mine, 415 tons produced 50 ounces."

PAHANG CORPORATION.—The London office advises the receipt of cablegram giving the output for the month of October as follows:—"From Jeram Lumpong Mill. In 18 days of 24 hours each 575 tons of stone were crushed, producing 35 tons 14 cwts. of black tin. 20 head of stamps running. Working costs, $9000. From Jeram Batang Mill. In 21 days of 24 hours each 720 tons of stone were crushed, producing 34 tons 16 cwts. of black tin. 20 head of stamps running. Working costs, $7000."

QUEEN CROSS REEF.—The London agents have received the following cable, dated Charters Towers, November 16:—"Have cleaned up after crushing. 131 tons of quartz for a gross yield of 460 ounces gold."

QUEENSLAND SMELTING.—The managing director cables that he has a further £5000 worth of bullion ready for shipment, making £11,000 to come forward by first steamer.

RIPANJI QUICKSILVER.—Manager reports:—"Mill produced from October 7 to November 2, 29,359 kilos. concentrates, against 22,181 kilos. for previous four weeks." Also the following telegram has been received on 10th inst:—"Last week obtained 10,600 kilos. concentrates."

SILVER KING.—Cable from manager at the mines:—"First half of November: Ore crushed, 1050 tons; estimated production, 10,000 ounces silver."

SUTHERLAND REEF.—November 19: Manager cables that the mill will be stopped for a week during this month for repairs to machinery.

ST. JOHN DEL REY.—The following telegram has been received from Mr. Chalmers:—"Produce 10 days first division, November 7500 oits., equal to 864 ounces troy; value, £2900. Yield per ton 4 oits. (·4612 ounces troy).

SPRINGDALE.—The following cablegram has been received regarding Pine Creek and the Nancy Lee tunnel:—"The ore is improving in the drift as we advance, and the ore now averages $20 per ton."

TRANSVAAL COAL TRUST.—The following cablegram has been received from the head office at Johannesburg as l earing on the company's operations for the month of October:—"Output, 31,000 tons, Profit, £4300."

TALISMAN.—The directors have received a cable stating that the transfer of the property has been completed, and that it has been registered in the name of the company.

TAMWORTH GOLD.—The following cable messages have been received from Mr. A. Ballantyne, manager of the mine:—"November 13: The reef has improved in quality in the bottom of winze. The average width is 2 feet. The average value is $70 to $80 per ton (£14 to £16).—November 19: Shall start the mill crushing ore on dump in 40 days. Mine promises exceedingly well for the future."

UNITED PIONEER.—The following cable has been received from Barberton:—"Panning from the Ivy Leaf shaft gives 5 ounces per ton. Excellent work."

VAN RYN.—Profit for October: From the mill £2861, from cyanide works £1042, total for month £3903.

VICTORIA GOLD MINING ASSOCIATION (Charters Towers).—The following cablegram has been received:—"272 tons crushed, yielded 493 ounces gold." A dividend of 6d. per share has been declared, payable December 7.

WAIHI.—Bullion return for 28 days ending November 16:—£10,020 from 3060 tons.

WAIHI SILVERTON EXTENDED.—The following is copy of cable received from the local committee in Auckland:—"From the shaft in driving we have intersected a new lode. We are not yet through 6 feet across; the value per ton £4 10s. We think this lode will yield an ore body of considerable value.'

WITWATERSRANDT GOLD MINING COMPANY.—The following information has been received by cable from Johannesburg:—"The 'Interdict' has just been decided against the company. Decision a great benefit to company, in view of enhanced value of shares since March. Special general meeting will be held in Johannesburg on December 19 to increase borrowing powers of directors to £200,000. A scheme for providing working capital required is now under consideration by the board." The application money paid in respect of the new issue of shares will be refunded in full against the receipts given by the London agents, Messrs. Robert Whyte and Co., 19, Bury-street, St. Mary Axe, E.C.; such receipts must be left at the London office seven clear days for examination.

THE FUTURE OF SOUTH AFRICA.

UNDER the heading "The Coming Crash," the *Mining and Scientific Press* publishes a letter from the pen of Mr. Almarin B. Paul, M.E., in which, besides including a complimentary word or two respecting ourselves, he produces arguments, supported by figures, which will not prove uninteresting, favouring the permanence of South Africa as a gold-producing country, and exhorting Americans to learn a lesson from English speculators and capitalists.

"In England, France, and America, for some time, financial *savants* have been prophesying dire disaster to all who use their resources in a channel not altogether in their own keeping, and as they cannot stay the tide of enterprise and the flow of millions of dollars into South African mining ventures, they stand amazed, and call it recklessness beyond all reason. From the Paris Letter of the London *Mining Journal, Railway and Commercial Gazette*, I clip the following:—

> This element of recklessness has given rise to a good deal of concern among timid people, who have long protested violently against the new "craze." The failure of their forecasts of a collapse, so far, has apparently added rancour to their rhodomontades, and it has necessitated a calm and temperate article from the pen of the eminent economist, M. Paul Leroy-Beaulieu, to check this growing opposition.
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> "The 'failure of their forecasts of collapse' arises simply from the fact of their not grasping the backing which has caused the *furore* for mining shares, hence they stand aghast while the ball rolls on. Let us see what M. Paul Leroy Beaulieu says, for in his observations is a pith that will be well for our wise men to consider:—
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> M. Paul Leroy-Beaulieu points out that, undoubtedly, a great many investors will suffer in the end, but this is the price that has to be paid for all great financial and commercial movements. The Rand has opened up an enormous field for the active employ of French capital which has for too long a time lain, like the talent in the parable, wrapped up in a napkin. Money is abundant and cheap, and the only way to use it profitably is to boldly risk it. Some of the money will be lost in the great channel of speculation, but by far the greater part cannot fail to be extremely productive not only to the investor but also to the country generally. Where the money goes, there follows trade. In point of fact, the gold fever is the salvation of French finance, and this is beginning to be understood by French investors, who have unbounded confidence in the future of gold mining. The forcing up of prices is certain, at some time or other, to bring about a reaction, but this must be followed by the placing of the gold mining industry upon its proper level, when it will once more take up its position as a legitimate investment.
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> "There is, however, a general waiting for the coming crash, and in England and Paris they have been prophesying it for the past two years. When *The Mining Journal, Railway, and Commercial Gazette*, some years ago, favoured to a limited degree South African investments in mining ventures, it was censured to an unjust degree by the commercial journals as lending itself to wild ventures, but time has proved that the *Gazette* was right, and the 'coming crash' is not yet. Instead, the yield of the mines has expanded, and with this expansion is the outflow of capital into South Africa and elsewhere, and the whirl of speculation is moving onward with it. To my mind the end is not yet, and will not be for years, providing the erecting of stamps is maintained at the ratio of the past year, and the prospect is that they will increase.
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> "We must bear in mind that immigration, enterprise, and capital are flowing into one of the richest countries of the globe—a virgin continent, we may say, whose gold fields have been explored from Cape Colony to the Lakes, sufficient to know that there could be profitable employment for all the stamps it is possible to erect. They have about 3000 stamps running now, producing over $3000 per month in gold, and I would not be surprised if as many more were erected in 1896. The future is beyond any man's knowledge. A country that has produced some $175,000,000 value in diamonds in the past eight years, and to give full activity to the work could produce $40,000,000 worth per annum, is a wonderful one. Not only is this vast diamond yield a backing for all this mining 'craze,' as it is termed, but back of this is the product of $141,912,984 of gold, in the past eight years, and which is moving steadily upward.
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> "The yield they claim will be $50,000,000 for 1895. I do not doubt but it will be $40,000,000. For 1896 it is likely to reach $50,000,000.
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> "Now, where is the limit of speculation on such astounding figures as these, and here we must consider, too, that when it comes to mining, the English are ten times less brash in their ventures than Americans; besides all this, the English are born miners; they are not afraid of investing their capital; they do not depend on surface scratching, as Americans do as a whole, but on depth, and they mine with pounds to our dollars, in any and all ventures, and from this fact comes their greater success.

There is more life, wealth, and prosperity in a mining epidemic than in all the staid banking, mercantile, and commercial pursuits. Business houses play on the money in circulation, and seven-eighths are the records of failure. Mining furores bring forth new money, more of it, life to every community, and their record of failures is not seven to eight.

"Could any mining craze produce more distress in California than exists at present, with about every farm mortgaged for all it will stand, and which at forced sale would not realise 50 cents on the dollar of the general loans upon them? Would San Francisco real estate suffer for lack of buyers, as at present, had we a renewal of 'bonanza days,' with all its speculations?

"San Francisco business to-day can be compared to an old, decrepit miser, chomping a dry crust of bread for sustenance, not desiring to branch out for healthful food, because it takes money from the coffers. Our prosperity will not advance until a change is inaugurated. Our savings' banks are simply absorbers of wealth, for making the rich richer, and in their working bring forth but little productive enterprise whereby labour gets employment, as manufacturing institutions.

"As far as this European mining craze goes, all I dislike about it is that it puts California in the background in the eyes of European investors, and forces us to rely on our own mining capital, and as a result there must be a decline in the value of our gold properties. If the American people would show the mining spirit of the English, and not be so fearful of the loss of a few dollars, a very great good would be the result, as then the production of our mines—all the new money—would be kept at home, and the native born would have some show for labour. Let us hope that the South African 'craze' will continue to expand; that the blood of the business world may get warmed up, and that California—and every other of our mining States—may be favoured with a 'coming crash.'"

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

THE BARNATO CONSOLIDATED MINES (LIMITED).

The following is the text of a circular sent to the shareholders:—I beg to forward for your information a schedule exhibiting the properties held by this company in South Africa, the whole of which, with one exception, are situated in the mining districts of the Transvaal, and mainly on Witwatersrand. A map, exhibiting the exact localities of the properties, is now in course of preparation and will be sent to you when complete; meantime the localities are indicated by reference to the sections of Goldman's map. The remaining property consists of an interest in a most valuable and extensive estate at the rising Port of Delagoa Bay. The company's properties, as you will perceive, are 34 in number, Two of them have been already formed into subsidiary working concerns. Some of the properties are held in conjunction with the Consolidated Gold Fields of South Africa (Limited), the Rand Mines (Limited), and other leading firms and corporations. In the aggregate, the company's interests are equivalent to about 2500 claims, some of which are situate in the immediate neighbourhood of companies whose shares represent, even at the present depreciated prices, a value of from £20,000 to £30,000 per claim. The two subsidiary companies which have been already formed are:—(1) The Chimes Mines (Limited), which has a nominal capital of £375,000, whereof 325,000 shares have been already issued to this company (as the consideration for the property and a working capital of £50,000), while 50,000 shares are held at this company's option for 12 months at 50s. per £1 share; (2) the Rand Central Mines (Limited), which has an unissued capital of £200,000, is in cash, and in which this company's holding is 130,000 shares. In pursuance of the policy adopted by the directors, arrangements are in progress for the flotation of several other companies, and for the amalgamation of various blocks with the outcrop companies to which they are adjacent. You will be furnished with particulars of these developments from time to time. It may be added that the company has acquired for valuable consideration certain options over about 800 claims and several reef-bearing farms, which are now being carefully prospected with a view to purchase if results should warrant the same.—I am, dear sir (or madam), faithfully yours, T. Honey, secretary to London Agents.

SCHEDULE.

Property.	Situation.	Section Goldmann's Map.	No. of Claims.	Company's Interest.
Aurora Deep ...	S. of Aurora West ...	3	47	¼
Lowrey Block	S. of Unified ...	3	43½	¼
Susan Jane ...	Paardekraal ...	3	12	All
Barrand and Dickson ...	" " ...	3	88	All
De Meillon's Block ...	S. of Angle Tharsis ...	3	14	¼
Haines' Block	" "	3	19	¼
A.L. Syndicate	S. of Main Reef	3	100	¼
Main Reef Deep	" " ...	3	33	All
Union Syndicate ...	S. of Angle Tharsis ...	3	86	½
Kitsey Syndicate ...	" " ...	3	68	¼
Cohn's Claims...	" " ...	3	40	¼
Alpha Syndicate ...	S. of Banket Co. ...	3	38	All
Croesus Deep (1)	S. of New Croesus ...	3	67	85 p.c.
Croesus Deep (2)	" " ...	3	144	63·75 p.c.
Langlaagte Claims ...	S. of U. Langlaate ...	3	13	All
Vogelstruisfontein ...	S. of Vogelstruis ...	3	309	⅓
Rand Exploring Syndicate	S. of Ferreira ...	4	142	5·12*
Heriot-Jumpers Deep ...	S. of Heriot & Jump....	4	21	½*
Doolan's Claims	S. of Heriot	4	21	½
Chimes Mines ...	S. of New Chimes ...	5	508	All
Van Diggelen's Claims ...	S. of Rietfontein ...	5	159	All
Gauf Syndicate	Leeuwpoort ...	5	300	...130,000 shs
B.L.K. Syndicate	" " ...	5	100	½
Klippoortje ...	S. of Durfontein	5	64	85 p.c.
Princess Claims	Leeuwpoort ...	5	107	All
Morse Claims...	Dip of Nigel ...	1	71	½
Michaelis Claims	" " ...	1	9	½
Goodman's Claims ...	" " ...	1	96	½
Berlein's Claims	" " ...	1	84	½
Molly Nigel.....	" " ...	1	204	All
Netherlands ...	Rietvlei ...	2	120	13-16
Orkney Estate	Kierkedorp ...	—	Farm	All
Barberton	De Kaap ...	—	139	¼
Lourenço Marques	Delagoa Bay ...	—	Port Properties	½

* Less fractional participation with others.

HAMPTON PLAINS ESTATE.

The following circular has been issued to the shareholders:—The shareholders will be glad to learn that the prognostications as to a plentiful supply of water being discovered by the use of the diamond drill have now been amply confirmed. On November 1 the following cablegram was received:—"Borehole is 190 feet deep. The water has risen in shaft 180 feet. Have arranged to commence pumping at once. Will give it a fair test one week. If result is satisfactory, expedite the shipment of pipes." The directors have now received a further cablegram as follows:—"Diamond drill pumps working day and night—five days 38,000 gallons per day of 24 hours. There has been no decline in the yield. Think it would be advisable to order at once pipes, pumping-engine, and machinery. Edward Hooper (of the firm of Messrs. Bewick, Moreing, and Co.) concurs. Suggestions for you to consider with respect to the necessary plant will be forwarded by means of a cablegram." Some few weeks ago the concluded arrangements for the formation of a company with ample working capital to take over the boring operations and erect suitable machiney, and to deal with the sale of water on a commercial scale. The importance of the discovery of this abundant supply of underground water can hardly be over-estimated, not only to the Hampton Plains Estate (Limited) alone, but to the West Australian Gold Fields generally.

LILLOOET, FRASER RIVER, AND CARIBOO GOLD FIELDS (LIMITED).

The following circular has been issued to the shareholders over the signature of the secretary to the company:—"I am instructed to inform you that from advices just received from our managing director, Mr. F. S. Barnard, we learn that Mr. Barnard, accompanied by our superindent, Mr. Hughes, and Mr. W. W. Anderson, another experienced mining engineer, has been visiting the properties of our company, and I have much pleasure in informing you that their reports are satisfactory. Most development work has been carried out on property No. 1, upon which Mr. Hamilton Smith, the well-known expert, has made a favourable report, and on October 9 last the staff of workmen on this property was largely increased, and we hope to be able to ship from this mine in the course of the next season $150,000 worth of ore. Our company has acquired at a nominal cost 3 miles of the old bed of the Cayoose Creek, and there is every hope that with a small expenditure this property will turn out to be of considerable value. Our superintendent, Mr. Hughes, has acquired at a small cost, and practically discovered, a property overhanging Cayoose Creek called the Bonanza Gold Quartz Reef, which consists of 14 British Columbian claims, equal to 525 claims in the Transvaal, and which proves to be a true fissure vein, and it is confidently anticipated this will be an exceedingly valuable addition to our properties; 2500 tons of ore have already been extracted therefrom, and the assays are very satisfactory. A large consignment unpicked has been sent to Chicago for assay, and arrangements are being made to erect a 30 stamp mill. Mr. Hughes anticipates that this property can be worked to show a net profit of £1 per ton. In addition, our company has secured five British Columbian claims, equal to 187½ claims of the Transvaal, in a property known as the Abbott group, situated in the Lardeau district, and it is expected that this acquisition will also turn out an advantageous one.

THE HALL MINES (LIMITED), BRITISH COLUMBIA

The following circular has been issued to the shareholders:—The directors have now much pleasure in being able to inform the shareholders that the wire tramway from the mine to the smelting works at Nelson has been completed and is in operation, bringing down ore to the bins at the rate of 10 tons per hour. The buildings at the smelting works, also, are now approaching completion, and the smelter is expected to be in operation towards the end of the year. Water from the creek close at hand will be supplied to the works. The smelter will have a capacity to smelt 100 tons ore per day, and the lines of the Canadian Pacific Railway Company will run directly into the works. Development work at the mine has also been making good progress, and the existence of the ore body to the depth of upwards of 400 feet from the surface has been proved by boring. It will also be satisfactory to the shareholders to learn that the Chairman of the company—the Hon. Sir Joseph W. Trutch, K.C.M.G.—is now at Nelson, inspecting and pushing forward the works, and that he hopes to remain there until the smelting works are in full operation. On his return to this country, early next year, the directors will be able to place before the shareholders his full report for their information.

FRONTINO AND BOLIVIA GOLD MINING COMPANY.

The directors have received advices from the mines, dated September 23 and October 7, also a letter from Messrs. Restrepo, dated September 12. The statement for the month of September is as follows:—2653 tons produced bar gold, 2909½ ounces; tributers' gold produced bar gold, 157½ ounces; total, 3067 ounces. Also 56,000 lbs. of sulphurets valued at £1047; estimated value of the gold and sulphurets, £7750 16s. 7d.; cost at the mines, Medellin, and in London, £6123 1s. 7d.; estimated excess of returns, £1627 15s. On November 15 the directors received a telegram as follows:—"Returns 7800; cost, 6200. Salada mill running. I will telegraph profit November.—Eustice." The returns and cost refer to the month of October, and having regard to the expenditure in London during that month, the profit for October will come out at about £1360. It will be seen from the conclusion of the letter of October 7 that the long dry season was beginning to break up.

THE OOREGUM GOLD MINING COMPANY OF INDIA.

At a meeting of the directors of this company, held on Tuesday, it was resolved:—"That an interim dividend (free of income-tax) of 3s. per share on both preference and ordinary shares be, and is hereby declared, payable on December 19, to the shareholders on the books of the company on December 3, and that the transfer books be closed during the said December 3. "N.B.—This dividend will make the amount paid for the first eight months of the year 1895 5s. per share on the ordinary shares, and 7s. per share on the preference shares. The balance dividend will be payable in April next.

PAARL CENTRAL GOLD MINING AND EXPLORATION COMPANY.

A circular to the shareholders states that the provisional agreement therein has been confirmed by the special general meeting of shareholders, held on the 13th inst., at Johannesburg, and the capital of the company increased from £200,000 to £400,000. The 200,000 new shares are apportioned as follows:—For the purchase of 27 dip claims from the Rand Mines (Limited), 160,000 shares; for additional working capital, 40,000 shares; total, 200,000. The working capital shares are now offered to shareholders *pro rata* to their holdings as registered in the books of the company at the close of business on December 4, being equal to one new share for five shares held, and at the price of £1 15s. per share plus ½ per cent. exchange. Applications for fractional shares cannot be entertained. The whole issue has been guaranteed by the Rand Mines (Limited).

— The MYSORE GOLD MINING COMPANY (LIMITED) has sold the gold obtained during the month of September last, which realised £21,642 7s. 9d.

— The attention of the London agents of the ROBINSON DIAMOND MINING COMPANY (LIMITED) having been drawn to a statement in a financial paper to the effect that the mine had been shut down, enquiry was immediately made, by cable, as to the truth of the statement, and a reply has been received from the directors of the company that "the report is utterly false." The first parcel of diamonds from the mine is now in London, and may be seen by any registered shareholder at the offices of the company, No. 8, Princes-street, E.C. Advices have also been received that a stone weighing 78¾ carats has been found, and is now on the way home, together with a further parcel of diamonds.

— The shareholders in the COOLGARDIE GOLD MINING AND PROSPECTING COMPANY WESTERN AUSTRALIA (LIMITED) are officially notified that they must surrender their certificates of shares to the Adelaide office without delay, in order to secure shares in the Associated Gold Mines of Western Australia (Limited) and cash bonus.

— The BRITISH SOUTH AFRICA COMPANY particularly requests holders of banker's receipts and fractional certificates in respect of the new issue of shares, to send these documents not later than December 1, to the company's share office, 2, Salter's Hall-court, Cannon-street, London, E.C., for verification and exchange for certified receipts. New share certificates will then be prepared, and will be ready for delivery by the end of December for the certified receipts. Considerable delay may occur in issuing share certificates unless banker's receipts are sent in to the company by the date above mentioned.

— Share certificates in COLUMBIA (CHARTERS TOWERS) GOLD MINE (LIMITED) are now ready, and will be exchanged for letter of allotment and bankers' receipts for the moneys paid on application and allotment—viz., 5s. per share. The directors have already purchased certain plant at Charters Towers, and have ordered the hauling and pumping engines on this side for shipment next month, and development by sinking the shaft is being proceeded with energetically.

— The CAPE COPPER MINING COMPANY (LIMITED) has declared a dividend of 2s. 6d. per share on the cumulative preference and ordinary shares, free of income tax, payable on January 1.

— The OURO PRETO GOLD MINES OF BRAZIL (LIMITED) has sold the September gold for £5544 19s. 2d.

— The NUNDYDROOG COMPANY (LIMITED) has sold the gold obtained during the month of September last, which realised £12,109 18s. 10d.

— The certificates for shares in the SELUKWE CONSOLIDATED (LIMITED) are now ready, and can be obtained on application at the office, Winchester House, between the hours of 10 a.m. and 2 p.m., in exchange for bankers' receipts for amount payable on application, allotment and first and final call.

— The CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA (LIMITED) has removed to 30, Moorgate-street, E.C.

— The OOREGUM GOLD MINING COMPANY OF INDIA (LIMITED) have sold the gold obtained in September for £22,339 5s. 5d.

— The RIO TINTO COMPANY (LIMITED) notifies that the definitive bonds of the issue of 4 per cent. first mortgage bonds, 1895, will be ready for delivery against the scrip certificates on and after December 2 next. Scrip may be presented at once, and must be left four clear days for examination. Holders who have applied for registered bonds must enter their scrip on separate lists, and not along with scrip intended to be exchanged for bearer bonds.

THE French chemist, M. Lebau, has prepared pure glucinum from the emerald by heating it in an electric furnace and treating the residue with hydrofluoric acid. Glucinum is a beautiful white metal, which is stronger than iron, and of greater electrical conductivity than copper or silver; hence it would be very useful for electrical engineering.

VENEZUELAN GOLD.—The Orinoco Company, the syndicate of United States capitalists, which has secured concessions on the Venezuelan gold lands claimed by Great Britain, is preparing to send a large force of prospectors, miners, and workmen into the field. W. N. Safford represents the company in New York.

MM. MOISSAN AND VIGOROUX, have succeeded in making silicides of different metals. Nickel and cobalt, heated with silicon, yield silicides of these metals, which in general are harder than the corresponding carbides or compounds of the same metals with carbon. The silicide of titanium even scratches the diamond.

WEST AUSTRALIAN GOLD CONCESSIONS. — The manager at Perth telegraphs as follows respecting the company's Talisman East property:—"Talisman East, No. 4 lode, average width is 6 feet, average sample of the ore 25 dwts."

THE MINERAL WEALTH OF ONTARIO.—A good showing of the mining wealth of the province of Ontario is given in the fourth report of the Bureau of Mines for the year 1894, sent by Archibald Blue, Director of the Bureau, Toronto. The volume contains 261 pages, and is accompanied by maps of parts of the Rainy River district, geologically coloured. While the extent and variety of mineral deposits in Ontario are considerable, the mining development has been retarded by the general financial depression, but the possibilities of profitable working appear to be great, and the director naturally expresses regret that the people of Ontario do not yet appreciate them. The value of the mineral production in 1894 is stated at $9,086,752, the number of employés as 6075, and the wages amounted to $1,840,289. The largest items in the list are petroleum and its products, natural gas, nickel copper, brick, stone, lime, tile, sewer pipe, pottery sand, gravel, and salt. A small amount of gold was produced. Iron has no place in the table of productions; the last attempt to produce pig iron in Ontario was made as long ago as 1854. An iron furnace is nearly completed at Hamilton, after many delays and misfortunes, and good results are expected from the enterprise. A section of the report is devoted to the "Hinterland of Ontario," the vast region reaching from Lakes Huron and Superior on the south to the Albany river and James Bay on the north, with the boundary line of Quebec on the east and its western limit Rainy river and Lake of the Woods, containing an area of about 140,000 out of the 200,000 square miles of Ontario. An elaborate and instructive paper on "Calcium Carbide and Acetylene Gas" forms another section of the report, and others are devoted to an account of diamond drill explorations, nickel and its uses, &c.—*Mining and Scientific Press.*

THE ROBINSON DIAMOND MINING COMPANY, LIMITED

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—With reference to a repeated statement regarding this company's mine, which has been published in the *Financial Times* of yesterday, the 21st inst., my directors have authorised me to publish the following cable just received from the head office of the company in Johannesburg, and dated to-day:—

"The directors authorise you to have officially contradicted report circulated by Rand Cable Agency that the mine has been shut down. Board of directors have not had any communication from shareholders. Report is utterly false. Board of directors never contemplated, and do not contemplate, shut down mine. The mine is getting richer as depth is attained."—Yours faithfully, (Signed) J. ROBERTSON,

Secretary to London Agents.

London Agency, 8, Princes Street, London, E.C., November 22, 1895.

C. PASS & SON (Limited), BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS,
ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c.
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For further particulars apply to "No. 7," MINING JOURNAL Office, 18, Finch Lane, London, E.C.

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Printers and Publishers,
SYDNEY AND MELBOURNE.

COMPANIES AND LEGAL ANNOUNCEMENTS.

*** Advertisements are inserted in this column at the rate of 9d. per line with a minimum charge of 7s. 6d.

AFRICANA (LIMITED).

NOTICE IS HEREBY GIVEN, that the Registered Offices of the Company in London have this day been removed to
No. 34, CLEMENT'S LANE, E.C.
By order of the Board,
ROBT. RANDALL STEVENS,
Secretary.
21st November, 1895.

THE OOREGUM GOLD MINING COMPANY OF INDIA (LIMITED.)
6 and 7, Queen Street Place,
London, E.C.,
November 19th, 1895.

AT a MEETING of the DIRECTORS held to-day, IT WAS RESOLVED—
"That an Interim Dividend (free of Income Tax) of 3s. per Share on both Preference and Ordinary Shares be, and is hereby declared, payable on the 19th day of December, 1895, to the Shareholders on the books of the Company on the 3rd December, 1895, and that the Transfer Books be CLOSED during the said 3rd December."
JOHN GARLAND,
Secretary.
N.B.—This Dividend will make the amount paid for the first eight months of the year 1895 5s. per Share on the Ordinary Shares, and 7s. per Share on the Preference Shares. The balance Dividend will be payable in April next.

THE CAPE COPPER COMPANY (LIMITED).
9, Queen Street Place,
London, E.C.,
November 20, 1895.

NOTICE is HEREBY GIVEN that, at a Meeting of the Directors of this Company, it was resolved:—
"That a DIVIDEND of 2s. 6d. per Share be declared on the Cumulative Preference and Ordinary Shares, free of income-tax, PAYABLE on the 1st day of JANUARY, 1896, to the Shareholders on the books of the Company on the 3rd day of DECEMBER, 1895, and that the Transfer Books be CLOSED during the said 3rd day of DECEMBER, 1895."
Preference Coupons No. 8 and Ordinary Coupons No. 20 will be paid at the above rate, free of income-tax, on presentation at the Company's office.
By order of the Board,
J. C. LEAVER, Secretary.

RIO TINTO COMPANY (LIMITED).
FOUR PER CENT. FIRST MORTGAGE BONDS, 1895.

NOTICE is HEREBY GIVEN that the DEFINITIVE BONDS of the above issue will be ready for DELIVERY against the Scrip Certificates on and after MONDAY, the 2nd December next.
Scrip may be presented at once, and must be left four clear days for examination.
Holders who have applied for Registered Bonds must enter their Scrip on separate lists, and not along with Scrip intended to be exchanged for Bearer Bonds.
By Order,
GEO. N. THOMSON,
Secretary.
Offices of the Company, 30, St. Swithin's Lane, E.C.,
22nd November, 1895.

HENRY WIGGIN & CO. (Limited),
NICKEL AND COBALT REFINERS,
MAKERS OF BEST RED LEAD FOR FLINT GLASS MANUFACTURERS,
BIRMINGHAM.

The Mining Journal,
RAILWAY AND COMMERCIAL GAZETTE:
An Illustrated Record of Mining, Metallurgical, Railway, Financial, Industrial, and Engineering Progress.

ESTABLISHED IN 1835.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, published every SATURDAY MORNING, price SIXPENCE, is recognised throughout the World as being the oldest, most influential, and most widely circulated Journal devoted to the interests which it represents. It circulates

ALL OVER THE WORLD,

Amongst Mine Owners, Capitalists, Investors, Mining, Metallurgical Engineers, Manufacturers, &c., &c.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE has correspondents and sources of information in almost every quarter of the globe. Its policy is absolutely independent; its circulation is cosmopolitan.

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TO CORRESPONDENTS.—Letters on Editorial Matters, or containing literary contributions should be addressed to "THE EDITOR." All matter intended for insertion must be written on *one side of the paper only*. The return of rejected manuscripts cannot be guaranteed. The Editor invites correspondence and items of news or information from readers in all parts of the World.

TO SUBSCRIBERS.—The Annual Subscription to THE MINING JOURNAL, including postage, is for:—
The United Kingdom, £1 4s.;
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TO ADVERTISERS.—The following is an abbreviated Scale of Charges for Advertising:—Companies' Prospectuses, £12 12s. per column, or £20 per page; Companies' or Legal Announcements, 9d. per line, with a Minimum charge of 7s. 6d; Sales by Auction, Publications, For Sale, Wanted, &c., &c., 3d. per line with a Minimum charge of 4s.
Displayed (Trade) Advertisements of 2 inches in depth (or more), Single Column measure, will be inserted at the following rates:—For 52 insertions 2s. 6d. per insertion for each inch in depth; for 26 insertions 3s per insertion for each inch in depth; for 13 insertions 3s. 6d. per insertion for each inch in depth. Terms for special positions and contracts may be had on application.

*** ADVERTISEMENTS (which should in all cases be sent direct to THE BUSINESS MANAGER) can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 18, FINCH LANE, E.C., up till 6 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C. until 9 p.m.

Editorial and Advertisement Offices:
18, FINCH LANE, LONDON, E.C.
Telegraphic and Cablegraphic Address: "TUTWORK, LONDON."
Codes used: "A.B.C.," Moreing's, and "Universal."

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LONDON: NOVEMBER 23, 1895.

A YEAR'S MINING IN WESTERN AUSTRALIA.

THE Mining Market is never a really correct index of mining operations. Although, broadly speaking, activity in the mine means activity on the Stock Exchange, the latter is, nevertheless, always overshooting its mark. When the mineral output of a particular district shows signs of improvement, the shares of mines situated therein generally fly up with a bound, the next result being not a steady climb down to the correct level, but a headlong tumble to far below it, necessitating another violent upward movement to counterbalance it. The Mining Market, in fact, is a pointer that oscillates on either side of the true value of the mining district. In accordance with this view the recent fluctuations of market prices have not diminished the steadfast energy with which mining in Western Australia is being carried on, and we have to-day a truer gauge by which to measure its development in the Report of the Department of Mines of Western Australia, for the year 1894, which now lies before us. We think, indeed, that this report might have seen the light of day somewhat earlier. Statistics for 1894 that are not available before the closing months of 1895 are apt to be somewhat stale and unprofitable reading; at the same time, we are not forgetting that a new department, scarcely, indeed, organised as yet, in a new country, has to perform a task that is none of the easiest when it issues its first reports; but, surely, a report that ought theoretically to be completed on the first day of January, ought to be finished before the first of August, which latter is the date borne by the report in question. Not only do we feel ourselves justified in grumbling at the delay that has occurred in presenting this report; the matter thereof also presents ample room for improvement. In fact, not to mince matters, the report is defective in almost every respect. It will hardly be credited, but it is, nevertheless, perfectly true, that this Report of the Department of Mines of West Australia nowhere within the 47 quarto pages of which it consists contains a statement of the amount of gold produced by the colony. The nearest approach we can find to such a statement is a diagram showing the annual export of gold from West Australia, a capital thing of its kind, but one that assuredly needs supplementing by something more precise. This diagram is divided for each year into four columns, showing quarterly returns, and we gather from it that the output must have been approximately as follows:—

			Ozs.
1893	..	First quarter ..	15,500
1893	..	Second " ..	23,000
1893	..	Third " ..	25,500
1893	..	Fourth " ..	46,000
1894	..	First " ..	35,500
1894	..	Second " ..	40,500
1894	..	Third " ..	62,000
1894	..	Fourth " ..	69,000
1895	..	First " ..	53,000
1895	..	Second " ..	54,000

These figures are taken as nearly as can be from the diagram; hence we may say that the official export of gold from West Australia for 1894 was about 207,000 ounces. It is very noteworthy that the production in the latter half of each year is always greatly in excess of that of the first half, so that if 1895 produces in the same ratio as its predecessors, the total output for the year should be somewhere between 280,000 and 290,000 ounces. With such imperfect data, however, as we have before us, there is great difficulty in forming any trustworthy conclusions. There are only partial statements (contained in a map) as to what amount of the total was produced by individual fields, and as an additional guide in apportioning this, we may quote the interesting information contained in the two following tables:—

TABLE 2.

Area held under Lease (approved) December 31, 1894.

Gold Field,	Area in acres.
Coolgardie	5,697
East Coolgardie	4,032
Murchison (including Yalgoo)	2,817
Pilbarra	569
Yilgarn	453
Dundas	252
Kimberley	21
Total	13,841

TABLE 5.

Mining Revenue for 1894.

Received at—	Amount. £	s.	d.
Kimberly	143	14	0
Pilbarra	1,048	6	0
Murchison	6,090	1	6
Yilgarn	967	5	6
Coolgardie	20,611	15	0
East Coolgardie*	746	9	0
Dundas	822	17	6
Greenbushes	111	5	6
All other places	1,066	11	6
	£31,608	5	6

* Established in August only as a separate office.

These figures show us that Coolgardie is the biggest individual gold field as far as actual working up to the present is concerned, and that Coolgardie and East Coolgardie together form about two-thirds of the total area under mining lease. Further, we may turn to the areas of the proclaimed gold fields, which are given as follows, at the end of 1894:—

	Square miles.
Kimberley	47,000
Pilbarra	32,000
Ashburton	8,200
Murchison	32,000
Yilgarn	24,000
Coolgardie	21,500
East Coolgardie	44,200
Dundas	16,000
Total	224,900

A figure that will give some idea of the immense area over which the gold deposits extend, being, indeed, not very far short of twice the area of Great Britain and Ireland. The area of approved leases, it will be noticed, bears no kind of relation to that of the proclaimed gold fields. The former figure is the more important for our present purpose, especially taken in conjunction with the amount of revenue yielded by each district to the Department of Mines. As shown by the above-quoted figures, Coolgardie and East Coolgardie together pay just about two-thirds of the total revenue, this being the same proportion as that of the areas under lease.

From the map already alluded to we gather that the declared exports from the various gold fields were as follows:—

	Ozs.
Yilgarn, Coolgardie, & East Coolgardie..	136,828
Murchison	52,946
Pilbarra	16,254
Kimberley	588
Dundas	228
Total	206,844

It is unfortunate for our object that Yilgarn should be lumped with the Coolgardie fields, although this, of course, is justifiable, seeing that it, geologically speaking, forms but one field with them. It would, nevertheless, seem that here again this field figures in the same proportions approximately as in the previous case. We hope, however, in future years to get more exact and detailed statements of the amount of gold produced by each individual field, whilst data respecting the number of men at work in each, the cost of extracting the gold, and various other economic details, of the utmost value to us over here in forming our estimates of the relative merits of each gold field will, no doubt, be forthcoming when the colony, and with it the Department of Mines, settles down to steady work.

Another point on which we should desire information is that of the relative proportions of alluvial gold, cement gold, and reef gold produced by the colony. In a district as badly watered as West Australia this discrimination is of great importance in attempting to form any accurate forecast of its future as a gold producer. Its gold export seems to have commenced in 1887, to have continued very small indeed during 1887 and 1888, and then to have risen gradually to the middle of 1893, when it suddenly rose with extreme rapidity; it appears, however, that this rapid increase is not being proportionately sustained during 1895. Now, if the major part of the export up to the end of 1894 had been alluvial gold, there would be nothing abnormal in this, and all indications would point to a healthy state of affairs, because in so dry a country the amount of alluvial must necessarily be small, and the alluvial fields, therefore, be rapidly exhausted, whilst it takes time to develop the reefs and to erect the indispensable machinery for their treatment. If, however, the explanation we have suggested is not the correct one, it is difficult to see to what this falling-off in the rate of increase can be fairly attributed, unless it is that the mines are not holding out in depth, or that all the "eyes" have been picked out of the more accessible portions of the reefs for Stock Exchange purposes. It will be seen that either of these two very opposite views may fairly be maintained upon the facts as we now have them before us, and that more data are urgently needed to enable us to say which view should be adopted as the correct one. We can only hope that next year's report will supply us with the requisite information.

It is to be regretted that we get no information about the Greenbushes tin field; whilst of other minerals we hardly see any mention, except a very valuable little report on the Collie coal field, which now seems to be fairly well proved, and which will, no doubt, turn out a most valuable addition to the mineral resources of Western Australia. As regards the geological portion of the report, we cannot say we think highly of it as a contribution to a report of a Department of Mines. We should have preferred fewer geological theories, less irrelevant matter, and more geological facts bearing directly upon the mining prospects of the colony, for, after all, it is to these last that the attention of a Department of Mines ought chiefly to be directed.

GOLD MINING IN QUEENSLAND.

LARGELY as the splendid discoveries in Coolgardie and at the Murchison have tended to quicken and reinvigorate the mining industry when it seemed almost on the point of falling into a moribund decrepitude, the sudden and almost startling prominence achieved by these new centres of activity has not been altogether without some balancing disadvantages. One inevitable effect of the celebrity attained by the West Australian gold fields, and the large extent to which, consequently, they monopolise public attention, is to cast a shadow of obscurity over the solid achievements, and to bedim, for a time at least, the reputation of the several sister Australasian colonies, all of which have already worked out for themselves undeniably successful careers as gold-producers. Rapid advancement towards a more perfect industrial method, and continuously augmenting figures of output, may occasionally secure a momentary attention from some influential mining exploiter, but so strongly has public taste set into other grooves that both the claims advanced from less popular quarters, and the results by which they are supported are allowed to pass without recognition. Fully alive, as we are, to the splendid mineral possibilities latent in West Australia, we would be no parties to the ostracism illiberally put upon other gold fields in the Australasian continent, and possibly our readers may find it not without interest to turn aside for a few moments and examine the sober, matter-of-fact reflection of a year's mining progress in Queensland presented in the paragraphs of the report returned annually by Mr. SELLHEIM, undersecretary to the Provincial Department of Mines. For it is to documents such as these, rather than to the prospectuses of companies or the reports of mine managers, that a judicious critic would turn to find material upon which to base conclusions. Though in the hands of unscrupulous manipulators statistics may readily become highly deceptive, it is at least as certain that when they are compiled by able men and issued under the Government *imprimatur*, they are worthy of full reliance. Thus it is highly satisfactory to find registered in such unimpeachable tablets a distinct advance in production for Queensland in 1894, as compared with the preceding year, a circumstance which should serve as a good corrective for our pessimistic prophets who are filling the air with doleful prognostications concerning the future of gold mining in general, and Queensland gold mining in particular. The fact stands revealed in all the cold fixity of departmental figures that for 1894 the gold yield of Queensland, both quartz and alluvial, reached 679,511 ounces, or an increase of 62,571 ounces upon the twelve months next preceding. An attractive opportunity for instituting self-complacent comparisons is thus afforded, for the increment itself is substantially more than the total output of South Australia or Tasmania. The figure, moreover, runs very near establishing a record output, for only in one year—1889—has it been exceeded, when the colony's gold realisations aggregated the respectable and even imposing total of 739,103 ounces—certainly an altogether exceptional high-water mark. No one with any theoretical or practical acquaintance with the principles of political economy will fail to associate with this increased mining activity a correspondingly greater prosperity in all the subordinate departments of social and commercial life. Employment for labour in greater abundance, more money in circulation, a greater vigour permeating all branches of activity—these are clearly some of the chief features of local progress standing revealed in the half-a-dozen or so figures representing the Queensland gold output for last year. Another highly attractive characteristic inseparable from this impulse to trade activity is its tendency to react upon the mining industry itself with which it is in "countless interactions interknit." The numerous reflex movements at once set going by any impetus communicated to the centre of a country's commercial activity ensure for it a period of substantial prosperity, reaching far beyond the limits of the original movement. Thus encouraged by past successes, the colonists are working vigorously at the development of their industry. One hears of new processes eagerly adopted, and of spirited and enterprising departures in a variety of directions. These argue very favourably for the future of gold mining in Queensland, the more especially in view of the oft-repeated assurance that up to the present Queensland mining has simply been a scratching on the surface. The comforting assurance that the province is on the "upward grade," coming from so reliable an authority as Mr. SELLHEIM, is a significant fact that no misrepresentation or partizanship can obscure. A result of the colony's industrial growth may be to stimulate the Government to greater enterprise in measures likely to foster by a judicious expenditure of the public money, an activity so largely associated with local prosperity. Hitherto they have not shown themselves at all backward in this good work. Perhaps the most important branch of their initiative has been in connection with testing the deep levels in the various fields, some grants having been judiciously entrusted to certain mining companies with the avowed object of furthering this work. No doubt the highly satisfactory state of the gold mining industry in Queensland to-day is largely attributable to the enterprise characterising local action in the past. There are four cyanide works in the province—one the largest of its kind in Australasia—and while the present yield from this source is considerable, greater things are expected from it in the future, the anticipation in regard to one plant being a multiplication of its past production by four. From this and other indications it is obvious that the prevailing attitude of the Queensland miner is one of pronounced optimism—a conclusion that finds additional support in the circumstance that the leaders of the provincial industry, almost to a man, look forward to a large increase in the aggregate of gold yield for the present year. Whether their expectations are fully realised or not—and we both hope and expect that they may be—there can be no doubt from the rich resources of the country, the enterprise of its inhabitants, and the congenial attitude of its Government, that there is a splendid history yet to be enacted for gold mining in Queensland.

THE RAND CONGLOMERATES.

WE published last week under this title a very interesting paper by Mr. KUNTZ, which had been read at Johannesburg before the Geological Society of South Africa. We have more than once drawn attention to the capital work that this young but vigorous society is doing in piecing out and readering intelligible the complicated problems of South African geology. Whilst Mr. KUNTZ has not very much that is new to tell us, he, nevertheless, contributes his fair quota of careful observation and sound reasoning, and thus confirms what previous geologists have assigned as the probable history of the conglomerates that have made the Rand what it is to-day. We are probably justified in assuming Mr. KUNTZ to be a German, at any rate by origin, and it seems that these difficult questions of the genesis of metalliferous deposits always find their ablest exponents in men of that nationality. Such names as VON COTTA, SANDBERGER, and FRANZ POSEPNY occur at once to the mind in this connection, whilst, as regards the Rand more particularly, we have BERGRATH SCHMEISSER's very important work, in which a thoroughly scientific account of the structure and constitution of these conglomerates was published for the first time.

Mr. KUNTZ takes the, no doubt, correct view that the conglomerates and their interculated sandstones were originally deposited in an approximately horizontal position, the differences in structure being ascribed to alternations of level or to varying strengths of the transporting currents. So far, most geologists will concur with Mr. KUNTZ. Further, however, comes the question—Where was the land whence the material of these beds was derived, and where the limits of the sea? The margins of this sea must have extended far beyond the area now occupied by the conglomerates, and we ourselves do not think that Mr. KUNTZ has sufficiently realised this, or has allowed for the immense amount of denudation that must have taken place since the banket beds were uplifted into their present positions. His views as to the concentration of quartz pebbles in these beds are very plausible, and the probability of their correctness may readily be granted, provided he postulates that auriferous quartz did not, at that time, exist in these Silurian or Cambrian strata. How otherwise can he explain the fact, now generally conceded, that the Johannesburg banket carries all its gold in the cementing portions, and that the pebbles are non-auriferous except where gold has been washed into minute superficial cracks in their surfaces? This fact was clearly laid down by SCHMEISSER, among others, and, so far as we know, has not been gainsaid. It is, at any rate, a factor that cannot well be omitted from any rational theory of the origin of the Rand conglomerates.

Mr. KUNTZ speaks in one place of a seashore, and in another of the Devonian sea. We presume that he does not ascribe to the rocks of this district any distinctively marine origin, and that by sea we are at liberty to understand "inland" sea. Such a lacustrine origin appears to us to be rather more consonant than a marine one with observed facts, and especially would go far to explain the notorious absence of fossils from these strata.

The theories here set forth as to the mode of upheaval, tilting, and folding of the beds can be accepted wit hout any difficulty; it need only be remarked that much of the faulting, and, no doubt some, at any rate, of the diabase dykes that intersect this district originated at a period subsequent to the upheaval of the banket beds. If Mr. KUNTZ, who we note is a disciple of the modern school of "percolation by mineral solutions," be right in his suggestion that these fissures—faults and dykes—were the channels by which the gold-bearing solutions found their way into the banket, then must the age of both these phenomena have been considerably more recent than the elevation of the beds. We need hardly say that we agree with Mr. KUNTZ in the theory that the gold was deposited *in situ* from solutions long after the beds themselves were formed. We have more than once advocated this view, which is, of course, not a new one, but which receives considerable support from the new observations recorded, although only tentatively, in this paper, as to the mode of distribution of the gold in the conglomerates. It is worth while adding that those who are interested in the Rand conglomerates in a financial rather than in a scientific aspect, and who think their bank pass-book the only book on the subject worth looking at, might find a powerful argument in Mr. KUNTZ's paper if they chose to read it. For if it be correct, as is here shown, that the gold was introduced into the banket after the latter had been uptilted, and if this gold came from below, there is then good reason to expect that the deeper-lying portions of these beds will be at least as rich in gold as the shallower ones, and that the future of deep-level claims may be looked forward to with the utmost confidence, in spite of local variations in their gold tenure, such as are equally shown in the shallower portions. The above theories will show that the channels through which the gold-bearing solutions came must, perforce, have been more or less irregular in their directions, and that rich and poor areas may be expected to alternate; if the theory respecting the connection between the dykes and the enrichment of the conglomerate is true, it may, however, be found that the richer portions are comparatively richer and the poorer portions poorer in depth than at the surface, although the average may remain the same, owing to the gold-bearing solution having had less time to spread throughout the banket.

GELDENHUIS DEEP.

THE Mining Market has this week again been in an uncertain and depressed condition, due to several causes. The chief, however, has been owing to foolish and unwarranted rumours respecting the crushing from the Geldenhuis Deep. It was rumoured that it was expected to be disappointing, and that the yield would show a result of about 6 dwts. to the ton. Immediately this created widespread depression, and gold shares of all descriptions, deep level securities in particular, were freely sold, prices going down to an absurdly low level. On the receipt, however, of a satisfactory explanation from the property, stating that the scarcity of native labour—from which the Rand has been suffering greatly of late—was the principal cause of the small output, the tone of the market immediately improved, and, aided by encouraging news from other quarters, comparative firmness prevailed, a steady rise in prices taking place. The absurdity of it lies in the fact that the future of deep levels is dependent upon the first crushing of the Geldenhuis Deep, in spite of the general knowledge that several circumstances were calculated to make it rather low. Those who so unreasonably acted upon this rumour—which, like most of the rumours of late, turned out grossly inaccurate—must have felt extremely silly when the official information came to hand. The output was not 6 dwts., but approaching 10 dwts., which, under the circumstances explained in the cablegram, cannot be regarded as other than extremely satisfactory. It all goes to prove in what a tottering and weak condition the mining market is, and how the slightest rumour, no matter how opposed it may be to reason, will shake it to its very foundations. Indeed, no stronger evidence is needed than the way in which everybody rushed to sell their Consolidated Gold Fields, notwithstanding that its interest in the Geldenhuis Deep is *nil*. It was ridiculously concluded, of course, that because rumour spread about statements unsupported by facts, the future of deep levels in general and Consolidated Gold Fields in particular, had received a death blow. It is unnecessary that we should make any severe strictures upon this phase of misdirected reason to convince readers of our own faith in deep levels. Had this explanatory telegram not been forthcoming before going to press, we should have counselled them either to have placed no faith in such a rumour, or, if it had happened to turn out true—which we should have found difficulty in anticipating—not to have attached that significance to it which misjudgment so readily did in the early part of the week. In another leader we take the opportunity once more of giving expression to our opinions on deep level mining in general, and our arguments there will convince calm and dispassionate reason that, had the yield been only 6 dwts., there were many local and temporary, as well as scientific, circumstances to account for it.

NOTES AND COMMENTS.

We continue to receive excellent accounts of the progress of the mining industry in British Columbia. We are stilof the opinion that this country is destined in due time to absorb the attention of the investor and capitalist, though we are afraid that it must still exercise a great amount of patience before this consummation is reached. Fortunately for the industry, and unfortunately, perhaps, for British Columbia, other countries seem to be coming more rapidly to the front, and naturally attention will be diverted to them. No sounder evidence can, of course, be produced than that given by the payment of dividends; in fact, it is the evidence which has the greatest weight with investors. The following figures will, therefore, prove interesting. Since the beginning of the year, the War Eagle, at Trail Creek, has paid $132,000. Its neighbour, the Le Roi, has just paid its first dividend amounting to $25,000. This is now putting out 100 tons per day, and both are very promising properties. In the Slocan district, the Idaho paid $30,000 in April last, and $4500 again in September. This, of course, seems a great reduction, but it is satisfactorily explained by the fact that development work only has been done in the mean time. The adjoining property, the Alarno, paid in September a dividend of 7½ per cent., amounting to $35,000. In the same month the Slocan Star paid a 10 per cent. dividend, amounting to $50,000. In addition to these dividends a 100 ton smelter is being built at Nelson to treat the ore from the Silver King, the property of the Hall Mines (Limited). At the mouth of Trail creek, on the Columbia river, another smelter is being built to treat the Le Roi and other ores. The smelter at Pilot bay, which has been in operation only a few months, has produced over 100 tons of silver lead bullion from ore chiefly got from the Blue Bell Mine, which belongs to this company. One or two London syndicates have representatives on the spot examining different properties, and, no doubt, we shall hear of some of these being put upon the London market when a favourable opportunity presents itself.

ENGLISHMEN of all shades of opinion will read with sympathetic concurrence the dignified and forceful protest against the political disqualification of his fellow-countrymen raised by Mr. Lionel Phillips in his presidential address to the Johannesburg Chamber of Mines. "There is," said the President boldly, "a limit to our patience; the Government meets our advances with insult." The speaker might have gone further, and said that the Government have had the bad courage to meet the just and temperately expressed demands of its English population with positive injury. For this iniquitous bureaucracy, whose unexampled greed for power is only equalled by its grotesque and laughable inability to wield it to the public advantage, have not scrupled by the closing of the Vaal river drifts to aim a vital blow at the industry whence it derives the bulk of its misused revenues, and to meet with contumely all petitions for the removal of the blockade. We do not use the language of empty menace, but make the bare narration of a fact when we say that the infatuated President of this purblind Government is under a grave misapprehension if he cherishes the conviction that he and his companions in political incompetency will be permitted to go serenely on, perpetrating injustice after injustice, insulting and injuring the very class who, by their enterprise and industry, have provided the money for carrying out every public improvement which this unholy despotism, masquerading in the cast-clothes of Republicanism, has, by a brief and accidental lapse into the paths of tolerable statesmanship, reluctantly carried out. As chief of the Russian secret police, Kruger might shine with lustre, but as a statesman he is a grim and ghastly failure. Comparing great things with small, the parallel between the Russian autocracy and the Transvaal misgovernment is closer than might appear on the surface, for whereas the Tzar of all the Russias is dimly aware that the convocation of a national assembly would immediately precede the death-knell of his power, Kruger is not without a very real knowledge that the extension of the political franchise to the English would lead to the torrential sweeping away of himself and the gang of incapable office-seekers by whom he is surrounded. His fevered clutching at the helm of power is a pitiable spectacle, but the clique dominated by Kruger is an aggravating anomaly, and must either dissolve itself or be dissolved from without.

THE position of Bayley's Reward is going from bad to worse. This, at such a time as the present, is unfortunate, though it is not likely to produce the effect which would have been created a few months ago. There seems to be a general impression that the mine is played out as far as it is possible to work it profitably, and it will no longer be pointed to as evidence of the richness, and the permanence in depth of Western Australia in general. The report presented at the second half-yearly meeting in Melbourne last month, which covers the half-year's working from March last, and a copy of which we have just received by mail, is far from a cheerful document. The hopes which were indulged in six months ago have not been realised. The directors and managers looked forward to meeting with stone of a higher grade than was met with during the six months previous, when the low yield enabled them to pay a small dividend. The yield, far from increasing, has become poorer and poorer, with the result that the directors are no longer enabled to pay any dividend at all. The figures for the last six months evidence very powerfully the change which has taken place in the position of the company. For the half year ending March gold to the value of £59,344 was won, out of which £32,000 was distributed in dividends, and £3400 added to the reserve fund. For the six months ending September last, gold to the value of £15,987 only was won, out of which sum, of course, it was impossible to distribute any dividends. Further comment, of course, is unnecessary. In our article upon the report, issued in April, we stated that further economies were absolutely necessary to enable a fair profit to be made. We are sorry to see, therefore, that the manager has been unable to introduce them. We fear, however, if this is impossible, the outlook is a gloomy one. The mine, however, is being worked in the hope that richer shoots will be met with in the course of development. Its neighbour, the Bayley's Reward No. 1 South, is in an equally unsatisfactory condition, and there is every likelihood that it will remain so for a considerable time to come.

So remarkable and rapid is the progress of the gold mining industry in all quarters of the globe, that it is difficult to keep pace with it. Never was there such a time. No sooner do we receive glowing reports from one district than they are followed by reports more glowing from others. Still conspicuous amongst the coming gold fields of the world is New Zealand, a colony which can boast of possessing one or two of the most promising gold mines. Although the gold yield has not yet displayed any conspicuous increase, due in great part to the want of suitable plant and crushing power, nevertheless in every part the indications and new discoveries are remarkably promising. Within the last few months numerous areas of auriferous ground have been taken up, and companies formed to exploit and work them. We have always advocated the claims of New Zealand. We always said it was a rich and promising country, and within a short space of time our statements have been completely verified. We never tired of pointing out that what the colony wanted was an adequate process for treating the low grade ore which abounds there. That process has gradually been introduced, and with astonishing results. The cyanide process is chiefly responsible for the growth and expansion of the industry, for it has made possible the working with profit of some of the largest reefs, which formerly could not be dealt with successfully.

BRITISH GUIANA is now undergoing a complete change in its internal development that might serve as a useful study for economists. One industry, unfairly handicapped by the Governmental subsidisation of foreign competition, is giving place before another. Reports come to hand by every mail to the effect that the gold industry is steadily and continuously growing, while it is, unhappily, a patent fact that the sugar industry is at least a declining and, perhaps, even a moribund means for colonial support. The leading Demerara paper, by asking the pertinent question, "Sugar or Gold?" recognises the extreme probability, if not the actuality, of the transition. Patriotism and fellow-feeling alike forbid us to take pleasure in the colony's vicissitudes, but we may at least venture to hope that if the expected change from commerce to mining is really taking place, that the latter industry may be put upon a solid and enduring basis, so that our fellow-subjects in the New World may be freed to as large an extent as possible from the loss and anxiety inseparable from the disturbance of the economical balance. Gold mining in British Guiana is starting upon its career under favourable circumstances. Recent discoveries go a good way towards placing the gold field on a more stable footing than mere hypothesis, while the hearty encouragement and the substantial aid afforded by the Colonial Office, offer the best promise for the happy working out of the problem of successful development. The colony's history during the next year or two is fraught with momentous consequences, and will be watched with friendly interest by English-speaking people all over the world.

As we anticipated, the shareholders of the Elkhorn Mining Company have agreed to the reconstruction scheme which the directors in their recent circular proposed to them. As we stated last week, we quite anticipated that the directors would have experienced much greater difficulty in persuading the shareholders to adopt the scheme, and we are agreeably surprised to see that their task was comparatively easy. In our opinion the shareholders have certainly adopted the wisest course. They have every reason to be satisfied with the terms upon which the directors are acquiring the new property, and we see no reason why they should not look forward to a successful, if brief, career. Too much emphasis cannot be laid upon the opinion expressed by Captain Plummer, an expert in whom every confidence can be placed. This gentleman is assured in his own mind that the mine will do all that has been said of it, provided sufficient developments are made. The shareholders are naturally afraid that the lease is too short to enable the mine to do all that is claimed for it, and to carry out the proper developments, but they have been assured that the time is ample, and that at the end of it they will be thoroughly satisfied with the return it will give them upon the capital invested. We quite agree with the Chairman that it is very rarely a property is placed before them upon the terms of the one which they are about to acquire. Not one penny in cash goes to the vendors. They get nothing but deferred shares, and the property will be handed over to the shareholders without any underwriting, advertisements, or other expenses whatsoever. As we said last week, it is a pity it is not a gold mine, but, from all accounts, it appears likely to return dividends of far greater value than some gold mines situated in some of the most promising gold fields of the world.

RECONSTRUCTIONS, more or less justifiable in character, are frequently carried with practical unanimity by large meetings of shareholders, but we seldom remember to have been more favourably struck by proposals for the resurrection of a company, phœnix-like, from the ashes of its former self, than in connection with the scheme ratified at the recent general meeting of the Harrietville Gold Mining Company. The justification for the new departure, into which it is difficult to read the slightest flaw, either from the point of view of miner-like procedure, or on the more general ground of sound business methods, lies in the several recent communications from the mine, so highly satisfactory in character, that to let the property slip for the sake of a very few thousand pounds, is a course that would recommend itself to no one whose mind was not crystallised into an unenterprising state of negative supineness. The figures of gold production do not rest on the flimsy and unstable dependence of assays, but upon broad and tangible results. High assay figures can be, as it is ungracefully said, "faked up" out of almost the poorest and most barren mines; but when crushings of scores of tons are made, and the figure remains undiminished, the scoffer and critic are effectually silenced. It is upon crushings of considerable magnitude that the proposals for reconstruction are based, and the quite unanimous support given to the board's scheme no doubt follows from a comprehension of the solid reasons lying behind it.

IN the United States mining, and iron and steel manufacturing districts, trade revival continues to progress satisfactorily, and the steady activity of the great centres of industry appears to be quite unaffected by any temporary set-back in prices or share quotations on the Exchange and markets. That wages are everywhere moving to a higher level is in itself a good sign of trade improvement. In the copper mining camps of Lake Superior the hardy Finlanders and Norsemen, who work in shafts 3000 to 4000 feet deep, are earning 6s. to 7s. per day; whilst the Colorado and Montana miners are making 12s. to 14s. per day Increased financial confidence and generally improved trade are furnishing fuller employment. Colorado and Montana mines that for many months have been unworked are again in full operation. In the iron and steel trades skilled artizans have lately received advances ranging from 10 to 20 per cent. Mr. Carnegie's several works, and those of the Illinois Iron and Steel Company—the two largest iron concerns in the States, each representing a capital of about $40,000,000 (or about £8,000,000 of English money)—are now paying 12s. to 15s. per day for their skilled labour. In these great American ironworks trades unions are discountenanced, though unionism is by no means extinct. Fewer attempts than in England are made by the Unions or the men to regulate or minimise the amount of work done by machinery, and to this circumstance partly may be attributed the fact that in no part of the world—not even in Germany—has so much labour-saving machinery been introduced. These great Pennsylvania and Illinois ironworks, at the present time, now that trade has revived, are reaping the benefit of the steady lowering of productive costs, and increase of output which free machinery employment has rendered possible. They are to-day competing with the Germans and, unfortunately, with the English also.

THE MINING MARKET.

FRIDAY EVENING.

A week of alarms and realisations—An early improvement nullified by subsequent reaction—An uncertain outlook.

THE Stock Markets have passed through another week of anxiety and nervous depression. Any number of pretexts have been forthcoming to explain the condition of affairs, but for actual cause we have not far to seek. In writing a week ago we pointed out that the stocks of various defaulters had been taken over by their creditors who were awaiting their opportunity of unloading. We suggested that the blocks of shares thus hanging over the market were not unlikely to check any immediate further rise, and advised prudent investors not to lose sight of this factor in the position. We have little diffidence in asserting that the trouble in the Mining Market is due entirely to the weakness of the speculative account. So apprehensive, however, have operators become, that every trivial adverse point is at once magnified to alarming proportions, whilst the facts that should be reassuring are utterly ignored. It must not be supposed that every one has been losing money during the past month. The Stock Exchange bears—and their name is legion—have been having a tremendous innings, and so successful have their tactics been that they seem to have killed every grain of common sense in their opponents. No device of the rampant bear is so deadly as the malicious attack upon individual credit. On Wednesday last the evil tongue of gossip was wildly at work scattering discredit far and wide. The names of houses of unimpeachable stability were wantonly bandied from lip to lip, and to judge by the eager credence accorded to every *canard*, no matter how palpably ridiculous, the whole Stock Exchange community might have been regarded as within measurable distance of extinction. Men seemed to be afraid almost of their own shadows, and as for making a fair price in a mining share, that was the last thing that entered their heads. Such a state of demoralisation as the market attained about noon on Wednesday, would be inconceivable to any sane critic, were it not a mere repetition of previous experiences. We have all heard in bygone days of these "Black Fridays," and other landmarks of panic, and we have only to freshen up our memory a little further to recall their outcome and how invariably the wild predictions of the pessimists have been falsified by events.

During the week the House conjured up another spasm of political fright, and under the influence of war rumours Consols and English Railway Stocks were heavily sold. For the second time Lord Salisbury gave the reassurance that was so badly wanted. His Brighton speech on Tuesday night had at least the effect of silencing one of the cries of the bears. We must not, however, lay the whole of the blame for the collapse in the Mining Market to the charge of London. Both in Paris and Vienna a very unsatisfactory state of affairs has prevailed, and it was quite as much a pressure of French sales as of English, that affected our market on Tuesday. On Thursday the announcement was made that the account of a prominent speculator in Paris, whose affairs were known to be involved, had been taken over by the Rothschilds. On the previous day a letter from the Syndic of the *Agents de Change* addressed to the Chairman of the London Stock Exchange, was posted on the notice board of the house, giving an emphatic denial to a statement which had been openly made that certain members of the *Parquet* were in difficulties. We allude below to an absurd story concerning the first crushing at the Geldenhuis Deep Mine, which served for a time to exercise a serious effect in the Kaffir Circus. The contradiction of the adverse points raised in this and the other cases enumerated, assisted in checking the demoralisation, Thursday's market showing a partial restoration of the confidence which for the most

of the week had been so conspicuous by its absence. As, however, we started by saying, these various bear points were but pretexts for the fall, not actual causes. Unfortunately we are still in the dark as to the extent of the wreckage that has to be cleared away before the situation can be regarded as sound. Up to the time of writing a week ago, only three failures had been announced in the House in connection with the last Settlement. On Saturday morning, however, five more hammerings took place, it being considered advisable in the general interest to declare two or three members whom it was at first intended to help over. The first four days of next week will be occupied with another Settlement, and everything now depends on how the differences are met on Pay Day. If clients come up to the scratch so as to relieve the tension with sundry of the smaller brokers, and the account thus passes over without serious mishap, we may see a good all-round recovery of tone. We do not, however, anticipate any material rise in prices this side of the New Year.

The failures announced on Saturday involved liabilities estimated in the aggregate at nearly £200,000. Four of the defaulters were brokers, and the fifth a jobber. After the declaration the House appeared to experience a feeling of relief, and prices closed with a very general improvement. The opening on Monday morning was good, though the best prices were not long maintained. Early in the afternoon a severe relapse set in, the story of the Geldenhuis Deep crushing being accorded exaggerated attention. Prices closed almost at the worst, the general flatness being aggravated by rumours of fresh trouble in Constantinople, whilst Paris sent over lower prices. The Westralian market followed the course of Kaffirs, an uneasy feeling prevailing at the close with generally lower prices. Indians were inclined to improve and Queensland and New Zealand shares were harder in several cases. On Tuesday the market experienced a general slump. Wild stories of financial trouble in Paris, coming upon the top of large selling orders from across the channel, gave the market a very decrepid appearance. Kaffirs all closed at the worst and West Australians sustained some severe losses. There was not much doing in Miscellaneous, though Indians were well supported. Throughout the day alarmist rumours on the Eastern Question helped to increase the disorganisation. Lord Salisbury's Brighton speech, although it had a good effect upon Consols at the opening on Wednesday, did not perceptibly assist Mining shares. In the Kaffir Circus the decline was general and severe, prices touching the lowest points of the week. There appeared to be no support forthcoming for anything, and the air was thick with rumours of discredit and defaults. West Australians were simply unnegotiable, it being almost as difficult to buy the good shares as to sell the rubbish. On Thursday, after a flat opening, the Kaffir Section had a strong recovery, more particularly in those shares specially selected for bear attack. The last prices were the best, and the tone was more cheerful than for several days previous. A further improvement was marked at the opening this morning, but it was not long lived, for before noon the closing up of a few small accounts knocked the tops off prices, after which the market relapsed into idleness. Closing prices are practically the same as those ruling at midday. It will be seen on comparing to-night's list with the last making-up prices that, with the exception of the Deep Level companies in which the speculative public is not much interested, no material decline has occurred on balance. The inference, therefore, would be that those operators for the rise who succeeded in getting over the last settlement will have no further difficulty this time. Should this prove to be the case we may see markets better immediately after the making up.

South African Shares.

The chief point which has been used to sway the South African Market this week has been the first crushing at the Geldenhuis Deep. As far back as a fortnight ago the bears began hinting at a disappointment. On Monday afternoon these hints took a definite form. It was stated that the crushing which began with the last week in October had produced such poor results as to settle for ever the lucrative possibilities of Deep Level mining on the Rand generally. We need not recapitulate all the absurd deductions that were drawn from such erroneous premises. Suffice it to note that on Thursday an official manifesto was issued pointing out that the actual results obtained were more than satisfactory, and considerably above the figures categorically stated in the misleading bear rumours. In addition to this, the fact must be taken into consideration that at the commencement of working there is invariably a large absorption of gold by the plates, so that a first crushing is never a fair criterion of what is to follow. The false rumour, however, has done its deadly work and the prices of Deep Level properties generally have suffered in consequence. Geldenhuis Deep shares which stood at 7¼ a week ago were sold down to 5½ on Wednesday, rallying on Thursday to 6¾, whilst to-night's price is 6½. The two undertakings most deeply concerned as large holders of these shares, that is to say Consolidated Deep Levels and Rand Mines, suffered seriously in sympathy with the fall. Consolidated broke away from 5½ until 4¼ was touched on Wednesday. Rand Mines fell from 30 to 23½, losing no less than 3½ on Wednesday. The quotations have since rallied to 4 and 25½ respectively. A heavy fall in Consolidated Goldfields Deferred was attributed to the same cause, though it may be pointed out that this company had realised its entire holding of Geldenhuis Deep Shares before the making-up of the last Account. The bears, however, insisted that as the company had its assets so largely represented by Deep Level properties, they must all be depreciated by the alleged poor showing of the Geldenhuis Deep. Gold Fields Deferred were 15 at the opening on Monday, but broke away to 13¾ that afternoon to 13⅝ on Tuesday and to 11¼ on Wednesday, rallying, however, half a point or so before the close. The first thing on Thursday morning they were sold down as low as 10⅝, but at this point a strong reaction set in carrying the price up to 12⅛ this morning. To-day's set back leaves them at 11⅞, a fall of (say) three points on the week. Gold Fields Deep moved sympathetically from 9½ down to 7½ on Wednesday, up to 8½ on Thursday, and back again at 7⅝ to-night. Gold Trusts are, finally, 7⅞, after looking strong at 9½. East Rands were as good as 7⅝ on Monday morning, but dipped to 5⅝ on Wednesday. This morning they changed hands at 6½, but close 1½ down on the week at 5⅛. Comets have lost a point at 2½ and St. Angelo 1⅜ at 3½. Nigel Deep were as low as 2 on Wednesday, and close ⅛ down at 2 1/16, with Roodepoort Deep 1 to the bad at 2⅝ and Champ d'Or Deep unchanged at 2⅛. Two events, calculated to help matters in the market generally, but in the Barnato group especially, are the issue of circulars by the secretaries of the Barnato Bank and the Barnato Consolidated Mines respectively. The former recounts the arrangement of an option under which the Bank has the right of "putting" upon Messrs. Barnato Brothers at cost price, within six months, the whole of the assets acquired from that firm. On this, Barney Banks, which were as low as 1⅜ on Wednesday, are at the close only ¼ lower on balance at 1¾. The second circular is accompanied to a schedule exhibiting the properties, 34 in number, owned by the Barnato Consolidated. This was issued too late to affect the market to-night. The Consols are ⅝ lower than last week at 2½. A dead set has been made at Buffelsdoorn on the unofficial cabled statement that last month's working resulted in a loss of £7000. The shares are 1 1/16 lower at 3½. The other declines in this group include 1/16 in "Johnnies" Investments at 3 1/16, 1/16 in New Primrose at 6, and Rietfontein at 3 1/16, ¼ in Crœsus at 1⅞, Ginsberg at 1, and Glencairn at 3⅛, ⅜ in Langlaagte Royal at 1⅝, and ⅛ in Spes Bona at 1⅜. Knights are finally a full point lower at 5¾. The chief feature in the Robinson group is the heavy decline in the Bank shares, which are 1½ lower on the week at 4¼. Block B have fallen ½ to 1 13/16, Randfontein 1/16 to 2 1/16, and Langlaagte ⅝ to 5½. Some serious reductions are shown in the better class dividend-paying shares. Ferreira have fallen 2 to 17, Simmer and Jack 2⅛ to 21, Wemmers 1½ to 9, Modders 1 to 8½, Jubilee 1¼ to 8, Henry Nourse 1¼ to 4¾, and Heriot and Geldenhuis ⅞ each to 9 and 4⅝ respectively. Crown Reefs have shed a point at 10, Durbans ½ at 7½, Robinson ⅞ at 9¼, Wolhuter 1¼ at 7½, and Meyer and Charlton ⅞ at 5¾. Some extensive fluctuations have occurred in Transvaal Gold, which were at one time over two points down, and close 1⅝ lower at 5½. Van Ryns also have moved extensively, closing 1¼ lower at 5, with the subsidiary Wests ½ down at 2¾, Village Main Reefs at 5, are 1½ to the bad, whilst Worcester are, somewhat exceptionally, without alteration at 4. Orions dipped to 2¾ on Wednesday, but close with a loss of 1/16 at 3 1/16, Minervas being 1/16 lower at 2⅛. Bantjes are considerably above the worst at 2⅝, which, however, marks a loss of ⅞ on the week. Kleinfonteins have fallen ⅞ to 3½, and Afrikander 1/16 to 1¼. In Land shares movements have been chiefly nominal in accordance with the tendency of the moment in Chartered. These shares were as good as 5 1/16 bid on Monday morning. On Wednesday they changed hands at 4⅝, and, after rallying to 5⅛ this morning, leave off ⅝ lower on balance at 4⅞. Anglo-French are 1 3/16 down at 3 1/16, New Africans ½ lower at 5, and Austral Africans ¼ down at 1½. Oceanas mark a decline of 1/16 at 1⅝. Klerksdorps have fallen 4s. to 11s. 6d. Enough has been said to show how universal the fall has been. The changes which we have quoted represent the best part of the results of actual business. In the scores of shares, which for obvious reasons we are obliged to pass over, alterations have been to a large extent nominal. De Beers have fallen heavily on Paris sales, and finally show a loss of 2⅜ at 24⅝. Jagers are sympathetically 1 1/16 down at 8. The Lydenburg Group shows a general reduction, Lisbons being 2s. 6d. lower at 5s. 3d., and Spitzkops 1/16 down at ⅜. Balkis are exceptionally firm at 7s. 6d. on the announcement of a shilling dividend, the proceeds of the company's realisation of its holding in Graskops.

West Australians.

A very general reduction is shown in West Australian shares, though there has not been a great deal of actual business. Holders have been compelled to sacrifice good shares to raise money to meet differences in other departments, but the dealers have evinced no desire to sell parcels at the depreciated level. The circular issued by the secretary of the Hampton Plains containing reassuring statement as to the water supply, has caused some good buying of these shares, which are finally half a point down at 3⅛. We regard them as a really good purchase at this price, or better still whenever they are flatter. A 2s. dividend has been declared on Great Boulders, but in sympathy with the general depression, the shares are ⅜ lower on the week 4⅞. The Hannan's group generally has been supported at the decline by well informed buyers. In spite of this, however, generally lower prices are seen. Brownhills have lost ⅜ at 2⅛, Hannan's Star ¼ at 1⅜, True Blue ¼ at 1⅛, Associated ¼ at 1¼, and Napier ⅛ at 1½. The Menzies group has not escaped the epidemic of flatness. Menzies Reefs have lost 1/16 at 1⅛, Mining and Exploring ⅜ at 1¼, and Gold Estates ¼ at 1 1/16. Golden Cements and Horseshoes, both at ⅛, mark losses of ⅛ and ¼ respectively. Mainland Consols, after a stubborn resistance, are finally ⅜ down at 1⅛. In the Exploring and Finance group the losses are not less noticeable than elsewhere. Reductions of half a point are shown in Colonial Finance at 3¼, West Australian Concessions at 1⅝, and Exploring and Finance at 3⅛, Gold Estates at 2¼, and Central Exploration at 1⅜. Western Australian have fallen ⅜ to 4⅛, Gold Fields ⅜ to 5⅞, and W. A Exploration ⅜ to 4⅞. London and Globe are finally 1/16 down at 2 1/16, with the Deferred at 3⅛. Lady Lochs look cheap at 1⅛, which is just half the quotation ruling at the beginning of the month. We believe that a purchaser of these shares and of True Blues will have no reason to regret his bargain.

Miscellaneous.

The circular issued by the directors of the Waratah, and commented upon in our last issue, has had a satisfactory effect of keeping these shares firm in the midst of the general slump. There have been buyers at 8s. 6d. throughout the week which argues in favour of a rise under happier conditions. The Charters Towers' group has been well supported without any special movement in prices. New Zealand gold shares, however, have given way, Waihi marking a loss of ½ at 5½. The Indian gold group has been well supported, with the result that last week's prices are well maintained. Copper shares have given way in sympathy with Tintos, which have been pressed for sale on Paris account. After dropping to 14¼ Tintos mark a loss of 1⅜ at 15. Tharsis are ½ down at 4½. Broken Hills, in which a bear account exists, have been in demand on Australian account, and mark a gain of ⅛ at 2⅛. Alaska Treadwell have fallen ½ to 5½, and Burma Ruby ¼ to 1/16. Straits Developments have given way ¼ to ⅜, St. John del Rey 1/16 to 1, and Aladdin's 1/16 to 1 1/16, but Wentworths are maintained at 1 1/16.

British Mines.

The Cornish market has been depressed all the week in sympathy with tin, and the dulness which has prevailed in Kaffirs and all mining shares. Dolcoath fully-paid are about 18s. 6d. and the partly-paid 6s. to 7s. with but little desire to buy or to sell. Carn Brea are buyers 20s., and sellers 22s. 6d. East Pools have fallen to 3⅜, in consequence of the dispute with Wheal Agar. The fear of the water reaching Tincroft has induced holders to offer shares in the latter. South Croftys are nominally 7s. 6d., West Kittys steady 4, Wheal Basset about 3½, and South Frances 15s. Wheal Grenvilles are called 12⅜, but for the last few days there has not been any business in the shares.

STOCK EXCHANGE SETTLING DAYS.

Settling Days on the Stock Exchange are as follow:—

CONSOLS.

Monday, December 2.

STOCKS AND SHARES.

NOVEMBER.

Ticket Days.	Account Days.
Wednesday, November 27	Thursday, November 28

DECEMBER.

Saturday, December 14	Monday, December 16
Saturday, December 28	Monday, December 30

Contango Days for Mining Market:—

Monday, November 25	Thursday, December 26
Thursday, December 12	

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, NOVEMBER 22.

Copper.

NOTWITHSTANDING the exceptionally favourable statistics, published on Monday, and revealing a decrease of about 3500 tons in the visible supplies for the first fortnight of November, there has been a heavy fall in G.M.B. values this week, due to large realisations on the part of speculators, influenced, apparently by the unsettled feeling in financial and political circles and by apprehensions connected with American values and shipments. On Monday s.c. G.M.B.'s opened at £44 2s. 6d. and three months at £44 6s. 3d., declining the same day to £43 15s. and £44 3s. 9d. respectively. On Tuesday the turnover was large, amounting to about 1800 tons, and there was a further decline of nearly £1 s.c. being done as low as £42 18s. 9d. On Wednesday it touched £42 8s. 9d., the lowest of the week, with three months at £42 16s. 3d. From this point the value rallied slightly, the realisations having abated and moderate buying setting in. The price fluctuated between £42 10s. and £42 18s. 9d. To-day after £42 15s. had been taken, the tone improved very markedly, £42 17s. 6d. s.c., and £43 6s. 3d. three months being paid, whilst a very fair consumers' demand, both English and continental, has set in. The tendency at the close of G.M.B. market is upwards, and the final values are £42 17s. 6d. to £43 s.c. and £42 6s. 3d. to £42 7s. 6d. three months.

Tin.

This article has likewise sustained a heavy decline in values, no doubt owing to the same influences which have affected copper and in sympathy with that article. About 200 tons Straits tin were treated on Monday at £65 2s. 6d. and £65 3s. 9d., and £65 13s. 9d. to £65 12s. 6d. three months. Spot was done on the following day down to £64 16s. 3d., on Wednesday to £64 12s. 6d., and on Thursday as low as £64 5s. To-day the fall continued, and business in spot took place at £64 2s. 6d. to £63 17s. 6d., but just before the close there was a recovery to £64. The market closes quiet but steady at £64 to £64 2s. 6d. s.c., and £64 12s. 6d. to £64 15s. three months. Holland has followed London, Billiton dropping from 39⅜ fl. s.c. step by step to 38¾ fl., the closing value this morning. Banca closed at 39 fl.

Pig Iron.

This market has been distinctly dull throughout the week, and the tendency of values has been, on the whole, downwards, though the total loss for the week is but 2½d. Business was done in Glasgow on Monday at 46s. 5d., 46s. 7½d., and then at 46s. 6d. s.c. Scotch; on Tuesday 46s. 4d. was accepted, on Wednesday 46s. 3d., and on Thursday 46s. 2½d. To-day business was done at 46s. 5d. and 46s. 4½d., and the close is steady at 46s. 5d. buyers. Hematite closes at 47s. 5d. and Middlesborough at 37s. 10d.

Lead

The conditions described in our last week's report continue to obtain, and have resulted in a further advance, £11 10s. having been paid for soft foreign forward. The close is firm at £11 11s. 3d. to £11 12s. 6d. soft foreign and £11 15s. English.

Spelter.

The dullness has persisted throughout the week, and the business passing is of very moderate dimensions. We close quiet at £14 17s. 6d. to £15 ordinaries, and £15 5s. specials.

Antimony remains quiet at £30 10s. to £31.

Quicksilver

is likewise dull at £7 7s. 6d. firsts, and £7 5s. 6d. seconds.

The following are to-night's (November 22) prices of metals:—

	£ s. d.	£ s. d.
Copper.		
Tough cake and ingot	46 5 0	46 15 0
Best selected	47 0 0	47 10 0
Electrolytic Copper	48 0 0	49 10 0
Sheets and sheathing	—	53 0 0
Flat bottoms	—	56 0 0
Chili bars (spot, & 3 months respectively)	42 17 6	43 6 3
Good merchantable,		
Copper tubes, seamless	—	0 0 7½
Alloys.		
BRASS: Wire	—	0 0 5¾
,, Tubes (solid drawn)	—	0 0 6¾
,, Sheets	—	0 0 5¾
PHOSPHOR BRONZE: Alloys II.	—	78 0 0
,, ,, III. or (Cog Wheel Brand)	—	81 0 0
,, ,, VII.	—	83 0 0
,, ,, XI.	—	78 0 0
,, ,, Vulcan brand A1	—	72 0 0
DURO METAL	—	73 0 0
BULL'S METAL	—	65 0 0
Ferrobronze (Vivian's).		
Ingots ...per lb.	0 0 5¾	—
Ordinary sheets, plates, bolts and bars	0 0 6¾	—
Screw bolts and nuts	0 0 8¼	—
Pump rods, plain	0 0 7¾	—
,, finished	0 0 10¾	—
DELTA METAL: No. 4 (per ton)	—	—
,, Sheets and plates (per lb.)	—	—
,, Bars, round, square, flat (per lb.)	—	—
,, ,, hexagon (per lb.)	—	—
Tin.		
English, ingots, f.o.b.	67 5 0	67 15 0
,, bars	68 5 0	68 15 0
,, refined	69 5 0	69 15 0
Straits, spot and 3 months respectively	64 0 0	64 12 6
Australian spot, and three months respectively	64 17 6	65 10 0
Banca ,, (in Holland)	—	65 2 6
TIN PLATES: Charcoal, best quality per box	0 18 0	0 18 6
,, ,, ordinary	0 11 6	0 14 0
,, Coke, best quality	0 10 6	0 10 3
,, ,, ordinary	0 9 9	0 10 0

These prices of tinplates are f.o.b. at Swansea: at Liverpool 6d. per box more.

Iron.		
Pig, o.m.b., f.o.b., Clyde, spot	—	2 6 5
,, Scotch pig, No. 1 Gartsherrie	—	2 11 3
,, ,, Coltness	—	2 13 6
,, ,, Clyde	—	2 11 0
,, ,, Govan	—	2 7 6
Bars, Welsh, f.o.b. Wales	—	5 5 0
Plates ,, ,,	—	6 3 9
Bars, Staffordshire, at works	—	5 10 0
Sheets ,, ,,	7 5 0	7 10 0
Plates ,, ,,	—	6 10 0
Hoops ,, ,,	5 17 6	6 0 0
Ship plates, Middlesborough	—	5 5 0
STEEL: English spring	—	16 0 0
,, ,, cast	21 0 0	52 0 0
,, Rails at works, according to section	4 2 6	4 10 9
Lead.		
Spanish or soft foreign	11 11 3	11 12 6
English pig, common	—	11 15 0
,, L.B.	—	12 5 0
,, sheet and bar lead	—	12 15 0
,, pipe	—	13 5 0
,, red	—	14 10 0
,, white	—	17 0 0
,, patent shot	—	15 15 0
Spelter.		
Silesian ordinary brands	14 17 6	15 0 0
,, special brands	15 5 0	15 7 6
English Swansea	15 15 0	15 17 6
Sheet Zinc	18 15 0	19 0 0
Antimony.		
Antimony	30 10 0	31 0 0
Quicksilver.		
Flasks, 75 lbs. warrants	7 5 6	7 7 6
Manganese. per unit.		
Ore, c.i.f., U.K. ports		
1st quality, 50 per cent. and upwards	0 0 11	0 0 11½
2nd ,, 47 per cent. to 50 per cent.	0 0 10	0 0 11
3rd ,, 40 ,, 47 per cent.	0 0 8	0 0 10
Aluminium.	Per lb.	Per lb.
98-99½ per cent. (guaranteed 98 per cent. min.) in ingots (1 cwt. lots)	0 1 6½	0 1 7
do (1 ton lots)	0 1 5	0 1 6
Nickel.		
98-99 per cent. guarantee	0 1 1	0 1 3

ERRATUM.—In our last week's price list there was a typographical error in our quotations for Chili Bars and G.M.B. We gave the price as £44 7s. 6d., s.c. and three months £44 10s. It should obviously have been as in the text above 1½, £44 3s. 6d. and £44 10s. respectively.

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; ‡ in the "Head Office" column of African Mines signifies that the address given is not that of the head office, but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

*** The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price, Nov. 22, 1895	Closing Price Nov. 15, 1895.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£		£ s. d.			
Abercorn Reef ...G	-/9 1/3	-/9 1/3	5/	—	0 4 0	—	Millwood	16, Tokenhouse Yard
Abbott's Con.Reefs	⅜ ⅝	1⅛	1 0	—	1 0 0	—	De Kaap	Broad Street Avenue.
African Alluvial ...	1⅜ 1⅝	1⅜ 1⅝	1 0	—	1 0 0	130,000	Moz mbq.	11, Poultry.
,, Alluvial ...	6/6 7/6	7/16 9/16	1 0	—	0 3 6	20,000	,,	
,, Coal	5/ 5/6	5/- 5/6	1 0	—	0 16 6	320,000	Middlebrg	19, St. Swithin's-lane
,, Estates ...	1¾ 2	2¼ 2¾	1 0	10 pc Sept. 95	1 0 0	438,603	,,	4, Drapers-gardens,
,, Consolid't	3/ 4/	3/6 4/6	1 0	—	0 17 0	200,000	,,	3, Copthall-buildings
,, Gold Con.	3/ 3/6	3/ 3/6	10/	20 p.c. Jan.'95	0 8 0	300,000	Mossel By	16, Tokenhouse-yard
,, Gold Ryco.	1⅝ 1⅞	1⅝ 1⅞	1 0	2/ Oct. 16 '95	1 0 0	175,000	—	23, College Hill,
Afrikander	1⅛ 1⅜	1¾ 1⅞	1 0	—	1 0 0	40,000	Transvaal.	,,
Agnes Block....... G	5/16 7/16	⅜ ½	1 0	—	1 0 0	78,507	,,	54, Old Broad-street
Alexandra Estate G	7/16 9/16	½ ⅝	1 0	—	1 0 0	225,000	Rand	Warnford Court, EC.
Anglo-French Exp.	3⅝ 3¾	4¾ 6	5 0	15% Aug 29 '95	5 0 0	30,300	S. Africa	170, Winchester Ho.
,, Matabeleland	3 3⅛	3¾ 4⅛	1 0	—	1 0 0	39,750	Matabld.	Winchester House.
Appantoo .... G	—	—	1 0	—	1 0 0	77,585	West Cost	Dashwood House.
Aurora .... G	1⅜ 1⅝	1⅛ 1⅝	1 0	5% Mar.,'93	1 0 0	65,000	Rand	8, Old Jewry.‡
,, West United	1⅛ 1⅝	1⅝ 1⅞	1 0	—	1 0 0	100,000	,,	1, Crosby Square.
Balkis Eersteling G	3/ 3/6	4/- 4/6	10/	—	0 10 0	520,000	Transvaal.	85, Gracechurch-st.
,, Land	6/6 7/	7/3 7/9	10/	—	0 10 0	520,000	,,	,,
Balmoral M. R....G	2¾ 3⅛	2¾ 3⅛	1 0	—	1 0 0	158,750	Driet'nt'in	7, Lothbury.
Banket............G	7/6 8/6	7/6 8/6	1 0	—	1 0 0	200,000	Rand	Johannesburg.
Bantjes Consol ...G	2⅛ 2¾	3⅜ 3⅝	1 0	rts Sep 24 '95	1 0 0	83,000	,,	Warnford-court,†‡
Barnato Bank	1 11/16 1 13/16	1 13/16 2 1/16	—			—	—	
,, Consol ...	2 7/16 2 9/16	3 1/16 3 3/16	1 0	—	1 0 0	1,000,000	—	1, Drapers gardens.
Barrett............G	11/ 12/	12/6 13/6	10/	—	0 9 0	207,496	De Kaap	17, Basinghall-street
Bechuanaland Exp.	1⅝ 1⅞	1⅞ 2	1 0	rts Jy 24 '95	1 0 0	400,000	Bechuana.	19, St. Swithin's-lane.
,, Trad g Assoc.	1⅜ 1⅝	1⅜ 1⅝	1 0	10 p c May, 95	1 0 0	100,000	,,	,,
Ben Trovato	⅞ 1	⅞ 1	—	—	—	—	—	
Big Golden Quarry	/9 1/3	1/ 1/6	5/-	—	0 5 0	483,226	Kaap Rivr	4, Bishpsgte. st. Wn.
Block "B" Lang.	1¾ 1⅞	2¼ 2⅝	1 0	—	1 0 0	535,000	Rand	8, Princes-st, E.C.‡
Bonanza............	1⅞ 2	2¼ 2¾	1 0	—	1 0 0	210,000	Turffont'n	120, Bishopsgate-st.
Brit. S. A. Char. ...	4 11/16 4 13/16	5 3/16 5 7/16	1 0	rts Jy 26 '95	1 0 0	2,000,000	S. Africa	15, St. Swithin's-lane
Buffelsdoorn...... G	4 11/16 4 13/16	5 5⅛	1 0	16/- Oct. '95	1 0 0	250,000	Potchefstr	7, Lothbury.
,, Central ...	¾ 1	¾ 1	1 0	—	1 0 0	—	—	
,, Consolidated	1 5/16 1 7/16	1¼ 1⅜	1 0	—	1 0 0	225,000	—	Warnford Court
Buluwayo Synd. ...	3⅝ 4	3¾ 4	1 0	—	1 0 0	12,000	Matabld.	10, Helen's Place.
Cape Asbestos	1⅝ 1⅞	1⅝ 1⅞	1 0	—	1 0 0	50,311	Orange Rv	19, St. Swithin's-lane
,, Copper C	2 3/16 2 5/16	2⅛ 2½	2 0	1/3 Jun 12,'95	2 0 0	300,000	Cape Col.	9, Queen-street-place,
,, 6% Pref. ...	2¼ 2½	2¼ 2½	2 0	1/3 Jun 12,'95	2 0 0	45,000	,,	,, ,,
Cassel Coal...........	1⅛ 1⅜	1⅜ 1⅝	1 0	10pc July '95	1 0 0	75,000	Johanbrg.	99, Cannon-street.
Cen. de Kaap	2/ 2/6	2/ 2/6	5/-	—	0 2 6	—	De Kaap	Palmerston Buildgs.
Cen. Montrose... G	8/6 9/6	8/6 9/6	1 0	—	0 18 6	69,000	Transvaal.	15, George st. Mn.Ho.
Champ d'Or...... G	2¼ 2⅝	2⅛ 2⅜	1 0	4/- Jan. 31 '95	1 0 0	116,016	Rand	8, Old Jewry, E.C.
Charterland G.F ...	¾ 1	1 1/16 1 3/16	1 0	—	1 0 0	150,000	—	2, Salter's H'll Court
Chimes West	1⅝ 1⅞	1⅞ 2⅛	1 0	—	1 0 0	150,000	—	8, Old Jewry, E C.
City and Sub.Nw G	5⅝ 5⅞	5¾ 6	4 0	10/- June'95	4 0 0	340,000	Rand	96, Gresham Ho., E.C
Coetzeestroom ...G	3/ 3/6	8/ 9/	5/	—	0 5 0	140,000	De Kaap	105, Leadenhall-street
Con. Bultfontein D	28/ 30/	28/ 30/	1 0	3¾% Sept.'94	1 0 0	721,500	Griqualnd	62, Lombard-st.
Con. Deep Levels G	4⅝ 5	5⅜ 5⅛	1 0	4/- Jy 11 '95	1 0 0	187,250	Transvaal	30, St. Swithin's-lane
Con. G. Fields S A.	11⅞ 12	14⅝ 14⅞xd	1 0	20/ Nov. 14 '95	1 0 0	1,250,000	S. Africa	8, Old Jewry.
Do. 6% Pref.	25/- 25/6	25/ 25/6	1 0	7 1-5d June'95	1 0 0	1,243,999	,,	,,
Do. 5% Deben...	111 112	111 112	5 0	5⅜ Oct. '95	5 0 0	600,000	,,	,,
Crescent-Matabele	6¼ 6½	5 6	—	—	—	—	—	
Crown Deep ......G	9¼ 9⅝	9¼ 10¼	1 0	—	1 0 0	250,000	Rand	120, Bishopsgate-st.
,, Reef ....G	10⅜ 10⅝	10⅞ 11⅛	1 0	5/- Jy 11 '95	1 0 0	120,000	,,	,,
DeBeers Consol. D	24½ 24¾	26⅞ 27⅛	5 0	12/6 Jy 11 '95	5 0 0	789,791	Kimberl'y	62, Lombard-street.
Do. 5% 1st Deb....	108 109	108 109	—	5% Jy 11,'95	—	£3,500000	,,	,,
Do. 5½% Bul. Ob.	103½ 104½	103½ 104½	—	5½% Oct. 95	—	720,000	,,	,,
Doornkop	4/ 5/	5/6 6/6	1 0	—	1 0 0	250,000	Doornkop	Warnford Court
Driefontein	1⅞ 2⅛	2¾ 3	1 0	—	1 0 0	175,000	—	Winchester Ho.
Durban Roodept. G	7⅜ 7⅝	7⅞ 8⅛	1 0	3/- Sep. 27 '95	1 0 0	£125,000	Rand	28, Leadenhall-bldgs
,, Deep..........	3⅞ 4⅛	4¼ 4¾	—	—	—	—	—	
Eagle's Nest...... G	⅛ ⅜pm	—	—	—	0 5 0	30,000	Barberton	54, St. Mary Axe.
Eastleigh ....G	15/16 1 1/16	1 3/16 1 5/16	1 0	—	1 0 0	240,000	Klerksdrp	Winchester House,
East Rand.......... G	6⅝ 6¾	7⅝ 7¾	1 0	—	1 0 0	570,000	Rand	170, Winchester-ho.
Evelyn ....G	1 1⅛	1 1⅛	1 0	10% Jan.'89	1 0 0	66,000	,,	28, Old Jewry, E.C.
Exploration	3⅝ 3⅞	4⅜ 4⅝	1 0	1/- Dec. 28 '94	1 0 0	148,000	S. Africa	30, S. Swithin's-ln.‡
Ferreira ....G	16½ 17⅛	18¼ 18¾	1 0	13/ Jy 26 '95	1 0 0	45,000	Rand	120, Bishopsgt st.Wn‡
Forbes Reef (Nw) G	⅛ ¾	½ ¾	1 0	—	1 0 0	105,000	De Kaap	45-6, Leadenhall-st.
Geldenhuis Deep G	6¼ 6¾	7¼ 7¾	1 0	—	1 0 0	265,000	Transvaal.	30, St. Swithin's-lane.
Geldenhuis Est. G	4⅛ 4¾	5¾ 5⅛	1 0	6/- Jy 26 '95	1 0 0	187,500	Rand	120, Bishopsgt st. Wn‡
,, Main Reef	1 1/16 1 3/16	1 3/16 1 5/16	1 0	1/ Sep. 27 95	1 0 0	150,000	,,	Warnford Court, E.C
George and May G	1 1⅛	1 1/16 1 3/16	1 0	—	1 0 0	112,750	,,	7, Great St. Helen's,
,, Goch ...G	2⅝ 2¾	2¼ 2⅜	1 0	—	1 0 0	100,000	,,	Johannesburg.
Ginsberg ....G	⅞ 1⅛	1⅛ 1⅜	1 0	—	1 0 0	130,000	Drietfon.	Warnford Court, E.C‡
Glencairn ....G	3 11/16 3 13/16	3 15/16 4 1/16	1 0	15 Jy 26 '95	1 0 0	200,000	Rand	2, Drapers-gardens.
Gold Coast Devel.	7/ 8/	7/- 8/-	—	—	—	—	—	11, Queen Victoria-st
,, Estates T....G	¼ ⅜	¼ ⅜	1 0	15% Dec.'89	0 10 0	130,000	Transvaal.	46, ,,
Gld. Fis. Deep...G	7⅜ 7¾	9¾ 9⅞	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
G.F. of Lydenb'rg	2⅞ 3	3¼ 3⅜	1 0	—	—	—	Lydenb'rg	—
G. F. of Mashonld.	⅜ ½	⅜ ⅝	1 0	—	1 0 0	200,000	Mashonld.	19, St. Swithin's-ln.
Graskop ....G	4/ 4/6	5/6 6/	5/-	2¼% Mar.'92	0 5 0	400,000	Lydenburg	2, Tokenhouse Bldgs
Griqualand W....D	8 8⅛	8 8⅛	10 0	2% Sept.'94	10 0 0	105,700	Transvaal.	62, Lombard-street
Guy Fawkes...... G	⅞ 1⅛	⅝ ⅞	10/-	—	0 10 0	24,000	Manica......	Broad-st. Avenue
Gwelo Exploratn.	4/3 4/9	4/3 4/9	1 0	—	0 10 0	—	Matabeleld	15, Bishopsgate st.
Harmony (Pref) G	6/6 7/6	6/6 7/6	1 0	—	1 0 0	280,000	—	79½, Gracechurch-st.
Heidelbg. Est. Ex.	2⅜ 2¾	2⅛ 2¾	1 0	—	—	—	Heildelbg.	
Henderson's Trans	2 9/16 2 11/16	2 13/16 2 15/16	1 0	—	1 0 0	250,000	Zoutpanbg	85, Gracechurch st.
Henry Nourse ...G	4¾ 5	5⅞ 6⅛	1 0	—	1 0 0	100,000	De Kaap...	Warnford-court.
Joe's Reef ....G	5/16 7/16	5/16 7/16	1 0	—	1 0 0	57,404	,,	21, Mincing Lane.
Johannesburg G.F	7/ 8/	7/- 8/-	1 0	—	1 0 0	99,537	Johanburg	31, Lombard-st., E.C.
,, Invest.	3⅞ 4	4 7/16 4 9/16	1 0	20% Oct. '95	1 0 0	650,000	—	7, Lothbury.
Johannesburg Pnr	8¼ 8¾	8¼ 8¾	1 0	12½% Nov.,'93	1 0 0	21,000	Rand.........	Johannesburg.
Jubilee ....G	7¾ 8¼	9 9⅛	1 0	30% Jy 26 '95	1 0 0	30,000	,,	8, Old Jewry.†
Jumpers ....G	6¾ 7	7⅛ 7¾	1 0	25% Aug 29 '95	1 0 0	100,000	,,	120, Bishopsgt st.Wn‡
Kimberley ....D	¾ ⅞ pm	¾ ⅞ pm	1 0	—	0 10 0	98,672	Kimberley	19, Finsbury circus.
,, Rdpt....	1¾ 2	1⅛ 2⅛	1 0	—	1 0 0	125,000	,,	2, Drapers-gardens.
Klerksdorp	11/ 12/	15/3 15/9	10/-	—	0 9 0	400,000	Klerksdorp	110, Cannon St.
Koffyfontein......D	⅜ ¾	½ ¾	1 0	—	1 0 0	125,000	Jacobsdaal	120, Bishopsgt st. Wn
Langlaagte Est. G	5 5¼	5¾ 6	1 0	5/- Jy 11 '95	1 0 0	470,000	Rand.........	59, Holborn Viaduct
Do. Royal	1⅛ 1⅜	1⅞ 2⅛	1 0	rts. Mar. 6 '95	1 0 0	100,000	,,	2, Drapers-gardens.
Lionsdale	8/6 9/6	8/6 9/6	1 0	—	1 0 0	115,000	Lydenburg	85, Gracechurch-st.
Lisbon-Berlyn ...G	5/ 5/6	7/3 7/9	2/6	—	0 2 6	889,233	,,	110, Cannon-street
Lo Magunda..........	2¼ 2⅝	2¼ 2⅝	1 0	—	1 0 0	120,000	—	8, Old Jewry
Lon. Paris Fin & M.	1⅛ 1¼	1⅝ 1⅞	1 0	—	1 0 0	500,000	—	5, Lothbury.
London & S. A. Ex.	13½ 14	14 14½	10/	4/- Sep. 27 '95	0 10 0	100,000	S. Africa ...	19, Finsbury-circus.
Lower Roodepoort	2/6 3/6	2/6 3/6	1 0	—	1 0 0	150,000	Vlakfontn	8, Old Jewry, E.C.
Luipaards Vlei Est.	13/16 15/16	11/16 13/16	1 0	6% Mar.,'90	1 0 0	319,603	Rand..........	Warnford-court.‡
Lydenburg Est. ...	13/16 15/16	1⅛ 1⅜	1 0	—	—	—	—	
Main Reef (New) G	1 1/16 1 3/16	1¼ 1⅜	1 0	—	1 0 0	111,500	Rand..........	15, George St., MnH
Mashon Agency...	1⅞ 2⅛	2⅝ 2⅞	1 0	—	1 0 0	100,000	Mashonald	8, Old Jewry, E.C.
,, Central ...	1⅛ 1⅜	1⅛ 1⅜	1 0	—	—	180,000	,,	,,
Massi Kessi	9/6 10/6	9/6 10/6	10/	—	0 7 0	60,000	Manica......	Broad Street Avenue
Matabelel'd G. R'f	3⅜ 3⅞	4⅛ 4⅜	1 0	—	1 0 0	110,000	Matabelel'd	3, Copthall-buildings.
May Con. (New) G	2 13/16 2 15/16	3 1/16 3 3/16	1 0	2/- Oct 30 95	1 0 0	236,500	Rand...... ...	4, Lothbury.‡
Metropolitan (N) G	1⅝ 1⅞	1⅞ 2	1 0	—	1 0 0	75,020	,,	1, Crosby Square.‡
Meyer & Charl....G	5⅝ 5⅞	6⅜ 6⅝	1 0	25% Jy 11 '95	1 0 0	71,687	,,	120, Bishopsgt-st. Wn‡
Middleburg Coal...	4/6 5/6	4/6 5/6	—	—	—	—	—	
Middle Vlei	1 1¼	1 1¼	—	—	—	—	—	
Minerva	1⅞ 2	1⅞ 2⅛	—		1 0 0	150,000	Rand.........	4, Drapers-gardens.
Modderfontein.. G	8¼ 8¾	9⅜ 9⅝	1 0	—	1 0 0	200,000	,,	Warnford-court.‡
,, "B" Extensn.	1⅞ 2⅛	2⅝ 2⅞	—	—	—	—	—	
Montrose.......... G	¾ 1	1 1/16 1 3/16	1 0	3/- Feb. '90	1 0 0	70,000	De Kaap ...	65, New Broad-street
Moodies G.&E.,...G	⅝ ⅞	⅞ 1	1 0	-/4 May '90	1 0 0	240,000	,,	8, Old Jewry.‡
Mozambique..........	1 1⅛	1 7/16 1 9/16	1 0	—	1 0 0	400,000	S.E. Africa	Broad-street House.
Namaqua C	1⅛ 1⅜	1⅛ 1⅜	2 0	2/6 July '91	2 0 0	94,351	Namaqualđ	34, Leadenhall-blds.
New African	4⅞ 5⅛	5⅜ 5⅝	1 0	—	1 0 0	180,000	—	88, Hatton Garden.
N.Belgium Land...	11/6 12/6	11/6 12/6	1 0	—	0 17 0	167,462	Waterberg.	33, Cornhill.
New Chimes...... G	2 2¼	2⅛ 2⅜	1 0	15 pc Aug. '95	1 0 0	100,000	Rand..........	8, Old Jewry, E.C
,, Clewer Estate	2⅜ 2⅝	2¾ 3	1 0	10% Feb.28 '95	1 0 0	100,000	Lydenburg	120, Bishopsgt st.Wn‡
,, Comet	2⅜ 2⅝	3⅜ 3⅝	1 0	—	1 0 0	175,000	Heidelburg	Winchester-house.
,, Crœsus...... G	1⅜ 1⅞	1 11/16 2 5/16	1 0	rts Apr 17 '95	1 0 0	255,000	Langlaagte	120, Bishopsgt.st.Wn
,, Gordon......D	5/6 6/6	5/6 6/6	1 0	5% Dec. '89	1 0 0	404,344	Griqualand	110, Cannon-street.
,, Heriot ......G	8¾ 9⅛	9¾ 10	1 0	2/- Oct 30 '95	1 0 0	88,750	Rand..........	96, Gresham Ho EC
,, Jagersf. L	7⅞ 8⅛	9 9⅛	5 0	10/ Oct. 16 '95	5 0 0	100,000	Transvaal.	5, Copthall-buildings
,, Kleinfontein G	3⅜ 3⅝	4⅛ 4⅜	1 0	12½pc Mar,'95	1 0 0	82,500	Rand..........	Winchester House
,, LouisD'Or.. G	1/6 2/6	1/6 2/6	1 0	—	1 0 0	—	,,	63, New Broad-street
,, Midas	2¾ 3⅛	3⅜ 3⅝	1 0	—	1 0 0	150,000	Mid'le Vlei	120, Bishopsgt-st. Wn
,, Primrose ...G	6 6⅛	9⅜ 6⅛	1 0	25pc.June'95	1 0 0	278,750	Rand..........	2, Draper's-gardens.
,, Rand..........	13/16 1 5/16pm	1 3/16 1 5/16pm	1 0	—	1 0 0	110,000	,,	Bartholomew-house
,, Rietfontein G	2⅞ 3⅛	3⅜ 3⅝	1 0	—	1 0 0	160,000	,,	Warnford-ct., E.C.
,, S.Augustine D	8/ 9/	9/ 10/	1 0	—	0 18 6	299,137	Griqu'ld W	30-1, St. Swithin's-ln
,, Spes Bona...G	1¼ 1½	1⅜ 1⅝	1 0	—	1 0 0	113,701	Rand.........	24, N. John-st., L'pl
,, Steyn Estate	1 5/16 1 9/16	1⅛ 1⅜	1 0	—	1 0 0	125,000	Heidelberg	19, Bury Street, E.C
,, Virginia ... G	1/6 2/6	1/6 2/6	10/	—	0 10 0	48,335	Transvaal.	36, Budge-row, E. C

AFRICAN MINES—(*Continued*).

Name.	Closing Price, Nov. 22, 1895	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Nigel .... G	4⅝ 4⅞	5 5⅛	1 0	rts Aug 10 '95	1 0 0	160,000	Rand.........	96, Gresham Ho., E‡
,, Deep ......G	2⅛ 2⅜	2⅞ 3⅛	1 0	—	1 0 0	195,000	Heidelberg	8, Old Jewry.
,, Extension ...	7/6 8/	7/6 8/	10/-	10% June '95	0 10 0	160,000	Rand.........	Basing House, E.C.
North Randfontn.	1¼ 1⅜	1⅜ 1⅞	—	—	—	—	—	
,, Sheba	6/ 6/6	6/- 6/6	1 0	—	1 0 0	200,000	—	38, London Wall.
Nourse Deep.........	4⅛ 4⅜	5⅛ 5⅜	1 0	—	1 0 0	375,000	Rand.........	120, Bishopgt.-st., Wn
Oceana	1 9/16 1 11/16	2 2⅛	1 0	25/- Nov.'89	1 0 0	357,400	Transvaal.	13, Austin Friars.
,, Develpmnt	⅞ 1⅛	1⅝ 1⅞	1 0	—	1 0 0	50,000	,,	,,
Ophir Concess. ...	3/6 4/6	3/6 4/6	1 0	—	0 18 6	111,857	E. C. Africa	31, Lombard-street.
Orange F.S.E. ...D	3½ 4	3½ 4	1 0	10% Aug., 95	1 0 0	284,000	OrangeF.S.	10, Moorgate-street.
Orion (New)......G	3 3⅛	3¼ 3⅜	1 0	10% Aug. '95	1 0 0	30,000	Rand.........	8, Old Jewry.
Otto's Kopje......D	1/6 2/	1/6 2/-	1 0	—	1 0 0	437,888	Kimberley	110, Cannon-st., E.C.
Paarl Central ... G	1¼ 1⅜	1 5/16 1 7/16	1 0	—	1 0 0	138,750	Transvaal.	120, Bishopsgt st.Wn.
Pardy's Mozambq.	1⅛ 1⅜	1¾ 2	10/	3/- Jy 11 '95	0 10 0	13,000	S.E. Africa	Broad St. Avenue.
,, Range ...	10/6 11/6	10/6 11/6	10/	—	£1 0 0	—	Manica......	Broad Street Avenue
Piggs Peak ...... G	⅜ ½	⅛ ⅝	1 0	—	0 17 0	200,000	Swazielnd.	6, Queen-street-place
,, Peak ...... G	5/16 7/16	7/16 9/16	1 0	—	1 0 0	60,652	,,	,,
Pleiades..............	½ ¾	½ ¾	1 0	—	1 0 0	140,000	Black Reef	
Porges Randfontn.	1⅞ 2⅛	2⅛ 2⅜	—	—	—	—	—	
Potchefstroom... G	⅛ ⅜	13/16 15/16	1 0	—	1 0 0	389,750	Potchefstm	19, Bury-st., E.C.
Princess Estate G	3 3⅛	3 3/16 3 5/16	1 0	—	1 0 0	125,000	Rand.........	33, Cornhill, E.C.
Rand Central Ore	2¼ 2½	2¼ 2½	1 0	25 p c Aug. 95	1 0 0	115,000	—	8, Princes-street, E.C.
Randfontein ......G	2⅜ 2⅝	2 13/16 2 15/16	1 0	—	1 0 0	2,000,000	Rand.........	59, Holborn Viaduct.‡
Rand Mines ...... G	25 25½	29¾ 30¼	1 0	—	1 0 0	332,708	,,	120, Bishopsgt st.Wn‡
Rand-Rhodesia Ex	1 7/16 1 11/16	1⅝ 1¾	1 0	10 p.c. Oct. '95	1 0 0	25,000	R&Rhodesa	123, ,,
Read's Drift ......D	2⅛ 2⅜	2⅛ 2¾	1 0	—	1 0 0	37,000	Transvaal.	19, Finsbury-circus.
Rhodesia Ex & Dv.	7 8	9 10	1 0	—	1 0 0	50,000	Mt & Mash'l	8, Old Jewry.
,, Gold Reefs	—	—	1 0	—	1 0 0	35,000	Rhodesia..	23, Leadenhall street
Robinson S A Bank	4 5	5⅛ 6⅛	4 0	—	4 0 0	750,000	—	8, Prince's-street
,, Diamond	1¾ 2¼	2 2¼	1 0	—	1 0 0	350,000	Kaal Valley	,,
,, Gold	9⅛ 9⅜	9⅞ 10⅛	1 0	6/- Jy 26 '95	5 0 0	550,000	M. Rf.'rand	28, Austin Friars, E.C
,, Randftn.	⅝ ⅞xrts	⅞ 1⅛ rts.	5 0	—	1 0 0	517,000	Rand.........	8, Prince's-street.
Roodepoort Deep	2⅛ 2⅜	3⅛ 3⅜	1 0	—	1 0 0	170,000	,,	8, Old Jewry, E.C.
Roodepoort Un. G	5⅞ 6⅛	6⅜ 6⅝	1 0	5/ Aug 14 '95	1 0 0	130,000	Rand.........	Warnford-court.‡
Rose Deep............	4¼ 4¾	5¼ 5⅜	1 0	—	1 0 0	300,000	M. Rf.'rand	30-31, S.Swith's. lane
Rosenblock Tw'Rfs	⅞ 1	⅞ 1	1 0	—	1 0 0	60,000	Krugersdp	4, Tokenhouse bldgs.
Rothery Block......	⅜ ⅞	¾ ⅞	1 0	—	—	—	—	55, Bishopsgate st.
St. Angelo	3⅜ 3⅝	4¾ 5	1 0	—	1 0 0	175,000	—	Winchester House.
Salisbury Gold ...	3⅛ 3⅜	3⅞ 4⅛	1 0	—	1 0 0	98,000	Rand.........	96, Gresham Ho., EC
Sheba ....G	1⅜ 1¾	1¾ 1⅞	1 0	1/- Sep 28 '94	1 0 0	850,000	Lydenburg	18, S. Helen's place.
Silati ....G	9/6 10/6	9/6 10/6	1 0	—	0 18 6	119,000	Zoutpan'bg	4, Sun Court, E.C.
Simmer & Jack...G	6¾ 7¼	7 7¼	1 0	2/ Aug 14 95	1 0 0	250,000	Rand......	8, Old Jewry.
S. A. Gold Trust ...	7⅜ 8	9⅜ 9⅝	1 0	5/ Jun 12 '95	1 0 0	250,000	S. Africa ...	
Southern Geldnus.	1/6 2/6	1/6 2/6	1 0	—	1 0 0	120,000	Elandsfont	6, Great St. Helen's
,, Land......	⅛ ⅜	⅛ ⅜	1 0	—	0 15 0	80,000	Giqld. W. & B. Bech	19, St. Swithin's-ln.
South West Rand	⅛ ⅜	11/16 13/16	1 0	—	1 0 0	158,000	Rand	Winchester House.
Spitzkop (New) G	13/16 15/16	1 1/16 1 3/16	1 0	—	1 0 0	99,070	Lydenburg	15, Bishopsgt-st, Wn.
Stanhope ....G	15/16 1 1/16	1 1⅛	1 0	2/- Oct 20 '95	1 0 0	34,000	Rand...	96, Gresham Ho., EC
Sutherland R. ...G	8/6 9/6	8/6 9/6	1 0	—	1 0 0	220,000	Zoutpan'bg	Dashwood Ho.
Tati Concessions ...	1⅛ 1⅜	2 1/16 2 3/16	1 0	—	1 0 0	392,000	—	Gresham House.
Thistle Reef ...... G	1/6 2/6	1/6 2/6	5/	—	0 5 0	547,976	Barberton..	Copthall House
Trans. Coal Trust...	1 13/16 2 1/16	1 13/16 1 15/16	1 0	1/- Sept. '95	1 0 0	439,965	Rand...	Broad-st. House, E.C
,, Consolidatd	1⅛ 1⅜	2⅛ 2⅜	—	—	—	—	—	
,, Est. & Dev.	⅞ 1	1 1/16 1 3/16	1 0	—	1 0 0	285,700	Transvaal.	76, Old Broad-st. E.C.
,, Gen. Assoc.	2⅝ 2¾	3 3¼	1 0	10% Mar. 95	1 0 0	210,000	—	30, S. Swithn's lane.
,, Gold Exp.G	5 5⅛	7⅜ 7⅞	1 0	1/- Aug 14 '95	1 0 0	260,000	Transvaal.	Suffolk House, E.C.
,, Gold Fields	3 3¼	4¼ 4⅜	1 0	—	1 0 0	135,000	S. A. R. ...	120, Bishopsgt.-st. Wn
,, Land	½ ⅝	⅛ ⅜	1 0	—	1 0 0	79,915	Transvaal.	33, Cornhill.
Treasury............G	2¼ 2⅜	2¼ 2⅜	1 0	12½% Sep.'94	1 0 0	60,000	Rand.........	Warnford Court.
U. G. F. of Manica	8/6 9/6	8/6 9/6	1 0	—	1 0 0	100,492	Manica......	Broad Street House.
Un. Ivy Reef......G	1 1⅛	1 1⅛	1 0	2¼ Jan. '94	1 0 0	45,000	Transvaal.	110, Cannon-street.
U. Langlaagte (N) G	1¾ 2	1⅞ 2⅛	1 0	—	1 0 0	146,000	Rand.........	85, Gresham Ho., E.C
United Matabele...	1 5/16 1 7/16	1 5/16 1 7/16	1 0	—	1 0 0	75,000	Africa	19, S. Swithin's lane.
,, Pioneer......	¾ 1	¾ 1	1 0	—	1 0 0	75,000	De Kaap ...	16, S. Helen's-pl., E.C
,, Rhodsa. G F	⅞ 1	1 1⅛	1 0	—	0 10 0	225,500	Rhodesia...	13, George street, E.C
Van Ryn .... G	4⅞ 5⅛	6⅛ 6⅜	1 0	—	1 0 0	160,000	Rand.........	18, St. Swithin's-ln.
,, North ...	⅜ 1	¾ 1	1 0	—	1 0 0	116,091	—	,,
,, West......	2¾ 3	3⅛ 3⅜	1 0	—	1 0 0	120,000	,,	,,
Venterskroon	1⅜ 1⅞	1⅜ 1⅞	—	—	—	—	—	
Village Main Reef	4⅞ 5⅛	6⅜ 6⅝	1 0	—	1 0 0	177,000	Rand.........	8, Old Jewry.
Vogelstruis Estate	3⅜ 3⅞	3⅜ 4⅛	1 0	—	1 0 0	200,000	,,	Winchester House.
Wassau ....G	⅜ ⅞	⅜ ⅞	1 0	—	1 0 0	100,000	Gold Coast	147, Cannon-street
Waterfall Estates.	7/16 9/16	⅜ ⅝	—	—	—	—	—	
Wemmer ....G	8⅞ 9⅛	10⅛ 10⅜	1 0	£1 Aug 14 '95	1 0 0	55,000	Rand.........	19, Bury-street.‡
Westleigh.............	⅜ ⅝	⅜ ⅝	—	—	—	—	—	
West Rand.........G	1¼ 1⅜	1 11/16 1 13/16	1 0	—	1 0 0	240,000	Rand....... .	8, Old Jewry.
White Rose ....G	½ dis par	½ dis par	1 0	—	—	—	—	
Willoughby's Con.	1 9/16 1 11/16	1 15/16 2 1/16	1 0	—	1 0 0	700,000	Mashonald	3, Copthall-bldgs.
Witwatersrand G	5⅝ 5⅞	6⅜ 6⅝	1 0	—	1 0 0	250,000	Rand..........	19, Bury-st., E.C.
Wolhuter ....G	7⅜ 7⅝	8⅝ 8⅞	1 0	rts Apr 26 '94	1 0 0	130,000	,,	Warnford-court.‡
Wolverand.........G	3¼ 4	3¼ 4	1 0	—	0 18 0	39,021	Transvaal.	Blomfield House.
Worcester ....G	3⅞ 4⅛	3⅞ 4⅛	1 0	3/- Sep 27 '95	1 0 0	90,727	Rand.........	8, Old Jewry.‡
Zambesia Explora.	3⅜ 3⅞	3¾ 4	1 0	—	1 0 0	65,000	Transvaal.	13 George-st., E.C.

BRITISH MINES.

Name.	Closing Price, Nov. 22, 1895	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Blue Hills ......CT	1/ 3/	1/- 3/-	*	2/- May,'81	6 19 5	5,353	Cornwall	Camborne.
Carn Brea ....T	⅞ 1⅛	1 1¼	*	2/6 Dec.,'93	22 8 5	6,000	Cornwall	Carn Brea.
Cook's Kitchen ..T	¼ ⅜	¼ ⅜	*	—	35 15 10	4,900	,,	Camborne.
Devon Gawton CA	15/ 20/	15/ 20/	1 0	—	0 12 6	25,000	Tavistock	8, Finsbury circus.
,, Gt Cons. CA	1⅛ 1⅜	1⅛ 1⅜	5 0	1/6 May '95	2 0 0	10,240	Devon ...	,,
Dolcoath ....T	19/6 20/6	19/6 20/6	1 0	—	1 0 0	—	Cornwall	Camborne.
,, ...	6/- 6/6	7/6 8/6	1 0	—	part paid	—	,,	,,
Drakewalls CTM	—	—	5/	—	0 2 0	61,856	,,	Dashwood House.
East Halkyn.........	20/- 25/-	20/ 25/	1 0	—	0 2 6	12,000	Flintshire	67, Lord St., Liverpl.
,, Pool ....AT	3⅛ 3⅜	3⅞ 4⅛	*	1/6 Sept.,'94	0 9 9	6,400	Cornwall	Illogan.
Great Laxey......L	1⅛ 1⅜	1⅛ 1⅜	4 0	6/- Apr.,'92	4 0 0	15,000	I. of Man	Douglas, Isle of Man.
Green Hurth ...L	1/6	1/6	1 0	-/6 June '89	0 19 0	4,000	Omberlnd	Newcastle.
Halkyn L	9 10	9 10	1 0	2/- Sept. '95	1 0 0	10,000	Flintshire	Chester.
Do. Dis. Mn. Drain	10 11	10 11	10 0	5% Aug. '95	10 0 0	10,000	,,	Corn Ex. Cmb. Chestr.
Isle of Man L	3¾ 4⅛	3¾ 4¼	5 0	2/- — 95	5 0 0	14,000	I. of Man	Chester.
Killifreth ....T	6/ 7/	8/6 9/6	*	1/6 Nov.,'94	5 15 6	6,000	Cornwall	Truro.
Leadhills L	1 1⅛	1 1⅛	6 0	3/- Sep.'92	6 0 0	20,000	Lanarksh.	30, Finsbury-circus.
Llanarmon	par	par	1 0	—	1 0 0	21,990	Denbigh	S. Werburgh Chmbrs Chester.
,, ...	par	par	1 0	—	0 15 0	3,790	Flintshire	
Levant ....CT	4¼ 4⅝	4¼ 4⅝	*	4/- Nov.,'94	11 9 6	2,500	Cornwall	Penzance.
Nenthd&Tndle. LZ	1/6	1/6	1 0	6% Feb.,'91	0 18 0	48,865	Nthumbld.	Newcastle-on-Tyne.
Polberro ....T	⅜ ⅞	⅜ ⅞	*	—	2 1 5	18,000	S. Agnes, Cl.	37, Walbrook.
Rhosemor L	par	par	1 0	10 p c Sept. 91	1 0 0	1,030	Flintshire	Corn Ex. Cmb. Chestr.
So. Condurrow TC	1/6 2/6	1/6 2/6	*	3/6 Apr.'93	7 17 6	6,123	Cornwall	20, Great St. Helens
,, Crofty TA	9/ 10/	¼ ⅜	*	—	17 10 6	5,769	,,	Pool, Cornwall.
S. Frances Untd. T	¾ 1	¾ 1	*	—	2 7 6	6,000	,,	Redruth.
,, Halkyn	par	par	1 0	—	1 0 0	10,000	Flintshire	S. Werburgh Chmbrs
Talacre	par	par	1 0	—	0 15 0	20,000	Flintshire	81, Forgate st., Chstr
Tincroft ....T	3⅜ 3⅝	3⅛ 3⅜	*	2/- Aug.'94	16 7 6	6,000	Cornwall	Carn Brea.
Weardale L	8/9	8/9	4 0	1/3 Oct.'90	1 10 0	60,000	Durham...	3, Lombard-court.
West Frances ...T	⅛ ⅜	⅛ ⅜	—	2/6 May,'89	17 1 7	6,144	Cornwall	Camborne.
,, Kitty ......T	3⅞ 4⅛	3⅞ 4⅛	*	2/- Dec,'94	1 2 0	6,000	,,	37, Walbrook.
Wheal Agar ..TA	7/ 8/	8/ 9/	*	2/6 Aug.'88	23 15 2	6,000	,,	Redruth.
,, Basset ...TC	3⅜ 3⅝	3⅜ 3⅝	*	10/- Apr.'88	12 3 0	6,144	,,	,,
,, Friendly..T	1/ 1/6	1/- 1/6	*	—	0 12 9	10,000	,,	2, Copthall Bldgs.E.C
,, Grenville T	12⅝ 13	12⅝ 13⅛	*	3/- July,'95	18 2 0	6,000	,,	7, Union-court, E.C.
,, Kitty......T	¼ ½	¼ ½	*	3/- Mar.'88	4 5 6	8,590	,,	Truro.
,, Metal & F. T	3/ 3/6	3/ 3/6	*	—	0 3 0	60,000	,,	14, Broad-street Av.

EUROPEAN MINES.

Name.	Closing Price, Nov. 22, 1895	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Alamillos L	⅞ 1⅛	⅞ 1⅛	2 0	1/6 Oct. 16 '95	2 0 0	35,000	Spain	8, Queen-street-place
Avala ....Q	0 ⅛	0 ⅛	1 0	1/- May '93	1 0 0	51,584	Servia......	4, Tokenho. Bldgs.
Consett Ore	6⅛ 6⅜	6⅛ 6⅜	1 0	5/- July 94	1 0 0	55,200	Spain	19, Grey-st, N'castle.
Fortuna L	1 1⅛	1 1⅛	2 0	-/6 Oct. 16 '95	2 0 0	25,000	Spain	,,
Libiola..............C	2¾ 3	3 3¼	5 0	2/- Sept. 27 95	5 0 0	60,400	Italy	Dashwood Ho., E.C
Linares L	5¼ 5⅜	5⅛ 5⅜	3 0	7/- Oct. 16 '95	3 0 0	14,998	Spain	6, Queen-street-place.
Mason & Barry...C	2⅜ 2⅝	2⅜ 2⅝	5 0	2/ May 23 '94	5 0 0	185,172	Portugal	87, Cannon-street.
Pestarena ....G	3/6 4/6	4/ 5/	3 0	—	3 0 0	67,809	Italy	6-7, Queen-street-pl.
Pontgibaud ......SL	—	—	20 0	11/6 Dec. '94	20 0 0	14,000	Coueron...	
Rio Tinto C	14⅝ 15	16⅛ 16⅜	10 0	10/- Oct.30 '95	10 0 0	325,000	Spain	30, St. Swithin's-lane
,, (1st Mrt. Bds)	98 99	98 99	100 0	4% Oct. 1,'95	100 0 0	£3600,000	,, ...	,,
Ripanji ....SQ	—	—	1 0	—	0 19 0	95,000	Servia......	120, Bishopsgt-st. Wn‡
Tharsis..........C Sul	4⅛ 4⅜	4⅜ 5	2 0	4/- Apr 26 '95	2 0 0	625,000	Spain	Glasgow.
West Prus Pre.pref	—	—	10 0	8% Sept 95	10 0 0	365	Germany	Walbrook Ho., E.C.
,, Prussian Pre.	—	—	10 0	8% Sept '95	10 0 0	5,450	,,	,,
,, Prussian Or.	—	—	10 0	4% Sept '95	10 0 0	14,050	,,	,,
Wohlfahrt L	—	—	1 0	3% Dec. '94	1 0 0	99,834	Prussia ...	17, Victoria-st., S.W.
,, ...	—	—	1 0	3% Dec. '94	0 10 0	9,090	,,	

"THE MINING JOURNAL" SHARE LIST—(Continued)

AUSTRALIAN AND NEW ZEALAND MINES.

Name.	Closing Price, Nov.22,1895.	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Abbotts ...G	⅛ ⅜	⅝ ⅞	£1 0	—	£0 17 6	67,000	Murchison	17, Old Broad st.
Achilles Gld. Fld.	1/6 2/	1/9 2/3	2/6	—	0 2 6	642,456	N.Zealand	Poultry.
Aladdins Lamp G	1 7/16 1 9/16	1 7/16 1 9/16	1 0	2/6 Sep 26 '95	1 0 0	100,000	N.S.Wales	4-6, Throg. Avenue.
Anglo-French Exp	1⅜ 1⅝ pm	1⅜ 1⅝ pm	1 0	5/- Oct 30 '95	1 0 0	—	W. Austral	79, Queen Street.
Anglo-Ger.Explor.	1⅛ 1¾ pm	1¾ 2 pm	1 0	5/- Oct 30 '95	1 0 0	99,000	,,	
Arrow Brownhill G	⅝ ⅞	1 1⅛	1 0	—	1 0 0	60,000	,,	4, Gt. Winchester St.
Assoc. Gold Mines	1⅛ 1⅜	1 11/16 1 13/16	1 0	—	1 0 0	375,000	Coolgardie	20, Bucklersbury
Austin ...G	5/16 7/16	5/16 7/16	1 0	-/4 Dec 28 '94	0 16 0	66,000	Murchison	23, College hill, EC
Australasian ...G	4/ 5/	4/ 5/	1 0	-/6 Mar. '92	1 0 0	210,000	Queenslnd	6, Queen-st. place
Australian ...C	—	—	20 0	-/9 Aug. '95	7 7 6	18,315	S. Austral.	15, Old Jewry Chbrs.
Aus. Bro. Hill Con.	1/6 2/	2/ 2/6	1 0	1/- June, '91	1 0 0	522,708	N.S.Wales	Dashwood House.
Baker's Creek ...G	⅛ ⅜	11/16 13/16	1 0	1/- May '95	0 17 6	100,000	N.S.Wales	Hillgrove, N.S.Wale.
Bardoc ...G	¾ 1	¾ 1	1 0	—	1 0 0	—	W. Austral	43, Threadneedle st.
Bayley's Reward G	4/ 5/	5/6 6/6	1 0	-/4 Dec. 94	1 0 0	480,000	Coolgardie	F'sb'y. H. Bl'mf'ld St.
Big Blow ...G	7/16 9/16	⅝ ⅞	1 0	—	1 0 0	145,000	,,	Blomfield Ho., E.C.
Blackett's Claim G	⅛ ⅜	⅝ ⅞	1 0	—	1 0 0	55,000	,,	16, St. Helen's Place
Black Flag...	⅞ 1⅛	1⅛ 1⅜	1 0	—	1 0 0	140,000	,,	1, Metal Exch. Bldgs
Blagroves Freehld	2/3 2/9	2/6 3/-	1 0	—	1 0 0	—	Auck. N.Z	Dashwood House.
Bonnie Dundee G	9/ 10/	9/6 10/6	1 0	—	0 18 6	120,000	N Zealand	16, S. Helen's Place
Brilliant ...G	¾ ⅞	¾ ⅞	2 0	-/6 Oct 15 '95	2 0 0	250,000	Queenslnd	Charters Towers.
,, Block...G	1 15/16 2 1/16 xd	1⅞ 2xd	1 0	-/6 Nov 14 '95	1 0 0	70,000	,,	16, S. Helen's Place
,, St.Geo.G	1 15/16 2 1/16	1 15/16 2 1/16	10/	1/ Nov 12 '95	0 10 0	72,000		Charters Towers.
Bri. Brok. Hill S	11/6 12/6	10/6 11/6	1 0	—	1 0 0	240,000	N.S.Wales	Dashwood Ho., E.C.
,, ,, S	—	—	8/	—	0 8 0	—	,,	,,
Britons United.. G	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	—	Coolgardie	57, Moorgate Street.
Broad Arrow ...	3/ 3/6	3/9 4/3	5/	—	0 4 6	—	—	,,
Broken Hill Prop.S	2 5/16 2⅜	2 4/16 2 5/16	8/	2/- Oct 16 '95	0 8 0	960,000	N.S.Wales	Dashwood Ho., E.C.
Brookman Bros. ...	1⅛ 1⅜	1⅛ 1½	1 0	—	0 10 0	120,000	Han. W.A.	53, Coleman Street.
Brownhill Propty.	11/16 13/16	—	1 0	—	0 10 0	—	Coolgardie	4, Gt. Winchester st
Caledonian ...G	3/6 4/6	3/6 4/6	1 0	—	—	120,000	W. Austral	Portland House.
Carrington ...G	3/ 4/	4/ 5/	12/6	—	0 12 6	100,007	Queenslnd	9, Tokenhouse Yard.
Cashman Bril.... G	1/16 3/16	1/16 3/16	1 0	—	1 0 0	55,128	Coolgardie	Winchester House.
Cassidy Hill ...G	1 1⅜	1⅛ 1½	1 0	—	1 0 0	115,000	W.Austral	4, Picardy Pl., Edin.
Central Boulder G	⅝ 1	1⅛ 1⅜	1 0	—	1 0 0	100,000	,,	20, Bucklersbury.
,, Exp. of W.A.	1⅜ 1⅝	1⅝ 1⅞	1 0	—	1 0 0	122,000	,,	2, Met. Exchg. Bldgs
Chaffers ...	4/ 5/	4/ 5/	4/	—	—	300,000	,,	54, Old Broad-st., E.C
Charters Tow. ...G	1/ 1/6	1/ 1/6	10/	—	0 9 0	200,000	Queenslnd	110, Cannon Street
,, Consolid....	/6 1/	/6 1/	10/	—	0 8 6	300,000	,,	110, ,,
Colonial Finance...	3 3¼ pm	3⅞ 4⅛ pm	1 0	rts Oct 19 '95	1 0 0	—	W. Austral	139, ,,
,, Gold Fields	⅝ ⅞ pm	1⅜ 1⅝pm	1 0	—	1 0 0	—	,,	,,
Con. G. M. of W. A.	5/16 7/16	⅝ ¾	1 0	—	1 0 0	90,000	,,	30, Moorgate Street.
,, Murchison ...	⅜ ⅝	⅝ ¾	1 0	—	1 0 0	250,000	Murc.,W A	Broad Street House.
Consuelo ...G	par ⅛ pm	par ⅛ p.c	1 0	—	1 0 0	65,000	Cool, W A	Bishopsgate House.
Contl. & W.A.Trust	¾ 1	1⅛ 1⅜	1 0	—	1 0 0	64,010	W. Austral	Broad Street House.
Coolgardie Gold ...	¾ 1	¾ 1	10/	1/6 Oct 16 '95	0 5 0	100,000	Cool. W.A.	Broad Street Avenue.
,, Mining G	1/ 2/	1/ 2/	2/	—	0 0 6	40,000	Coolgardie	Winchester House.
,, Mint & I.Kg.	¾ ⅞	⅞ 1⅛	1 0	—	1 0 0	150,000	,,	30, S. Swithin's ln.
Craven' Cal. ... G	2/6 3/6	2/6 3/6	6/	-/3 June 94	0 4 8	100,000	Queenslnd	30-1, S. Swithin's-le.
Crown Bayley's..G	1/16 ⅛ pm	1/16 ⅛ pm	1 0	—	0 10 0	80,000	Coolgardie	Bishopsgate Ho. E.C
,, United...	5/16 7/16 pm	5/16 7/16 pm	1 0	—	1 0 0	75,000	—	110, Cannon-st., E.C.
Cumberlnd (New)G	1/ 1/6	1/9 2/9	1 0	2/6 Dec. '87	0 19 0	184,890	Queenslnd	Blomfield House.E C
DayDawn B.&W.G	9/3 9/9	9/ 10/	1 0	-/6 Mar. 93	1 0 0	493,400	,,	16, S. Helen's Place
,, P. C. G	3/6 4/	3/6 4/	1 0	-/6 Apr. '92	1 0 0	490,000	,,	Winchester Ho., E C
Eaglehawk...G	1/6 2/6	2/- 3/-	1 0	—	0 18 0	120,000	Victoria ...	30-31, S. Swithin's ln
Emerald ...G	⅛ ⅜	⅛ ⅜	1 0	—	1 0 0	55,000	W.Austral.	4, Fenchurch-st.
Emperor ...G	⅜ ⅝	⅝ ⅞	1 0	—	1 0 0	65,000	Murc.,W A	Finsbury House, EC
Empress Coolge. G	7/16 9/16	½ ⅝	1 0	—	0 10 0	90,000	Coolgardie	2, Tokenhouse bldgs
Explorers Synd. ...	½ 1 pm	¾ 1 pm	1 0	—	0 5 0	9,000	W.Austral	Copthall House
Fingall R'fs, Extd	13/16 15/16	¾ 1	1 0	—	1 0 0	150,000	,,	20, Gt. Winchester st
Florence...G	1⅛ 1⅜	1⅞ 2⅛	1 0	—	1 0 0	60,000	,,	18, St. Swithin's ln
Gem of Cue ...	4/- 5/-	5/- 6/-	5/	—	0 5 0	45,000	Murc.W A	8, Drapers Gardens
Gibraltar Cons....	11/16 13/16	11/16 13/16	1 0	—	1 0 0	300,000	N S Wales	6, Queen-street-place
Gladiator ...G	⅝ ⅞	¾ 1	1 0	—	1 0 0	—	W. Austral	43, Threadneedle st
Gearock ...G	1/9 2/3	2/ 2/6	1 0	—	0 8 0	225,000	N. Zealand	3-5, Queen-st., E.C.
Golconda ...G	¾ ⅞	⅝ ⅞	1 0	—	1 0 0	68,086	Murchison	Winchester House
Golden Crown... G	1⅜ 1⅝	1⅜ 1⅝	1 0	—	1 0 0	100,000	W. Austral	54, Old Broad Street.
,, Gate... G	1/ 2/	1/ 2/-	10/	—	0 10 0	150,000	Queenslnd	9, Tokenhouse Yard
,, Horse Shoe...	¾ 1	⅞ 1⅛	1 0	—	1 0 0	—	W. Austral	13, Helen's Place
,, Link ...G	⅞ 1⅛	1 1⅛ xd	1 0	5/- Oct 30' 95	1 0 0	90,000	,,	Dashwood House
,, Plum...G	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	120,000	,,	4, Bishopsgate Street
Gold Estates ...	2⅝ 2⅞	2⅝ 2⅞	1 0	3/ Sep 12 '95	0 10 0	80,000	,,	42, Gresham House.
Great Boulder ...G	4¾ 5	5⅜ 5⅝	1 0	2/- Oct 16 '95	1 0 0	240,000	Yilgarn ...	3, Gracechurch st.
,, Fingall Rfs.	1 1⅛	1⅜ 1⅛	1 0	—	1 0 0	175,000	Kurnalpi	Broad Street House.
Gresham Synd. ..	1 1¼ pm	1⅛ 1⅜ pm	1 0	4/- Oct '95	1 0 0	50,000	W. Austral	13-14, Abchurch ln.
Hainault ...	1⅛ 1⅜	2 2¼	—	—	—	—	—	82, Gordon st., Glas.
HamptonGoldFlds	par ⅛ pm	par ⅛ pm	1 0	—	0 10 0	—	—	9, S. Mildred's Ct.
,, GoldHill	1/ 1/6	1/3 1/9	10/	—	0 8 6	—	,,	15, Geo. St., Mns Ho
,, Lands...	6⅛ 7	6⅛ 7	1 0	10/- Oct 16 '95	1 0 0	53,164	Coolgardie	1, Whittington Avue
,, Plains...	3⅛ 3⅜	3⅞ 4⅛	1 0	—	1 0 0	300,000	,,	29, S. Swithin's lane
,, PlainsEx	8/6 9/	14/ 15/	1 0	—	0 18 0	180,000	—	Suffolk House, E.C.
Hannan's BrwnHil	5¾ 6	6⅝ 6⅞	1 0	—	1 0 0	65,000	Coolgardie	Broad Street House.
,, Main Reef...	⅛ ⅜	⅛ ⅜	10/	—	0 10 0	—	,,	18, St. Swithin's ln.
,, North...	13/16 15/16	13/16 15/16	—	—	—	—	,,	
,, Oroya...	¾ 1	1⅛ 1⅜	1 0	—	1 0 0	—	,,	20, Bucklersbury
,, Reward... G	2¾ 3	3 3¼	1 0	—	1 0 0	70,000	Hann. WA	Bartholomew Ho.
,, Star...	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	—	E.Coolgde.	Finsbury HouseE.C
Hauraki ...G	8/6 9/6	9/6 10/6	2/6	1/ Sep 12 '95	0 6	250,000	Coromndl.	Dashwood Ho.; E.C
Hawk's View ...	⅞ 1⅛	1 1¼	1 0	—	1 0	40,000	W. Austral	20, St. Swithin's ln.
Idaho ...GS	5/9 6/3	6/ 6/6	10/	rts -/2 Dec 94	0 5 0	143,439	W. Austral	Copthall House.
Kaboonga ...G	1/ 1/6	1/ 1/6	10/	—	0 9 9	249,250	Queenslnd	70-71, Bishopsgate st
Kalgurli ...	1⅛ 1⅜	1⅜ 1⅝	1 0	—	1 0 0	34,000	W. Austral	20, Threadneedle-st
Kangarilla ...S	6/- 7/-	6/- 7/-	1 0	—	1 0 0	87,938	So. Austral	58, Coleman-street,
Kapanga ...G	8/6 9/6	9/ 10/	1 0	rts May 24 '95	0 19 6	249,760	N.Zealand	9, New Broad-street.
Kinsella ...G	9/16 11/16	⅝ ⅞	1 0	—	1 0 0	80,000	Murchison	33, Broad-st. Avenue
Kintore ...G	⅛ ⅜ pm	¾ 1pm	1 0	—	1 0 0	50,000	W. Austral	13, Abchurch lane.
Kurnalpi ...G	⅜ ⅝	⅜ ⅝	1 0	—	—	—	Coolgardie	Throgmorton House
Lady Loch...	1⅜ 1⅝	1¾ 2	1 0	—	1 0 0	70,000	,,	9, Tokenhouse Yard.
,, Mary Amalg.	1 1¼	1¾ 2	1 0	—	1 0 0	46,000	Murchison	Finsbury House.
,, Shenton ...	1⅝ 1⅞	1⅝ 1⅞	1 0	—	1 0 0	—	—	18, St. Swithin's ln
LakeView & E.Bldr	1⅞ 2⅛	2 2¼	—	—	—	—	—	
Lindsay ...	11/16 13/16	13/16 15/16	1 0	—	1 0 0	65,000	Coolgardie	Copthall House
Lon. & Globe Fin.	2 2¼	2⅛ 2⅜	1 0	—	0 15 0	—	W. A stral	15, Austin Friars.
Londonderry ...G	7/16 9/16	7/16 9/16	1 0	—	1 0 0	467,000	—	3, Gracechurch-st.
L&W.Aust. Expl.	4⅜ 4⅞	5⅜ 5⅝	1 0	4/-Nov 29 '94	1 0 0	100,000	W. Austral	Broad Street Ho.
Lon. W. A. Invest.	1⅞ 2⅛	2⅛ 2⅜	1 0	4/ Oct 16 '95	1 0 0	100,000		,,
Mainland Cons. G	1 9/16 1 11/16	1⅞ 2⅛	1 0	—	1 0 0	150,000	Murchison	54 Old Broad Street
Mallina Gold ...	13/16 15/16	13/16 15/16	1 0	—	1 0 0	89,000	W. Austral	49, W. Geo. St., Glas
Mawson's Rewrd.G	⅝ ⅞	13/16 15/16	1 0	—	1 0 0	60,000	,,	28 & 29, S.Swithin's ln
Menzies Gold Est.	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	—	,,	Broad Street House
,, Gold Reef	1⅛ 1⅜	1¾ 2	1 0	—	1 0 0	175,000	,,	2a, Old Broad Stree
,, (O'Driscoll)	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	—	,,	16, Tokenhouse Yard
Mills' Day DawnG	13/16 15/16	13/16 15/16	1 0	-/6 Aug 29 '95	0 15 6	300,000	Queenslnd	16, S. Helen's Place
Miner's Dream ...	par ⅛ pm	par ⅛ pm	1 0	—	1 0 0	100,493	Cool., W A	Bishopsgate House
Mosman ...G	4/ 5/	3/6 4/	1 0	—	0 19 0	135,000	N.S Wales	,,
Mount Margaret...	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	—	W. Austral	25, St. Swithin's ln.
,, Morgan G	3 3⅛ xd	2 15/16 3 1/16 x	1 0	-/6 Nov 14 '95	0 17 6	1,000,000	Queenslnd	9, Gracechurch-st.
Murchison Gift ...	⅛ ⅜	⅛ ⅜	10/	—	0 10 0	120,000	Murc.W.A.	11, Q.Victoria-st, S.W
,, Gold ...	7/ 8/	7/6 8/6	5/	—	0 5 0	400,000	,,	Winchester House.
,, N. Ch'm	13/16 15/16	1 1⅛	1 0	1/- Oct 3 '95	1 0 0	160,000	,,	23, College Hill.
N.Australian G. F.	1⅜ 1⅝	1⅜ 1⅝	1 0	-/6 June, '95	0 19 6	20,000	—	7, Union Court,
New Queen ...G	7/6 8/6	8/3 8/9	1 0	-/6 Sep 12 '95	0 19 6	158,915	Queenslnd	30, St. Swithin's-la.
North Boulder ...	4/6 5/-	8/- 9/-	10/-	—	0 10 0	—	W. Austral	15, Helen's Place
,, Coolgardie ..	1/3 1/9	1/3 1/9	5/	—	0 4 0	400,000	Pilbarra ...	226, Winchester Ho.
,, Fingall Reefs	¾ 1	1 1⅛	1 0	—	1 0 0	—	Cool., W A	18, S. Swithin's lane
,, Kalgurli ...	1⅜ 1⅝	1⅛ 1⅜	1 0	—	1 0 0	—	—	11, Abchurch lane
,, Q'ld. Agency	1⅝ 1⅞	1⅝ 2⅛	1 0	30% Aug. '95	1 0 0	90,000	Queenslnd	10 New Broad Street
Omnium G M Assoc	1⅛ 1⅜	1⅛ 1⅜	—	—	—	80,000	—	Broad Street House
Pilbarra G. F. ...	1 1⅛	1 1⅛	1 0	—	1 0 0	100,000	Pilb. W. A.	38, Coleman-street.
Queen's Bthdy Un.	11/ 12/	11/- 12/	—	—	0 11 6	75,000	Victoria ...	7-8, Gt. Wnchster St
Ramage Syndicate	7 9 pm	7 9 pm	1 0	—	1 0 0	50,000	W. Austral	4, Bishopsgate-st.
Royal Oak ...	1/9 2/3	3/- 3/6	5/	—	0 3 0	200,000	N. Zealand	Dashwood House.
,, Sovereign ...	1⅛	1⅛ 1⅜	1 0	—	1 0 0	60,000	Coolgardie	8, Old Jewry, E.C.
Sam's With. of Nat.	3/ 4/	4/- 5/	1 0	—	0 18 0	200,000	W. Austral	33, Old Broad Street.
ScottishAustralian	⅜ ⅝	⅜ ⅝	1 0	-/3 Aug., '95	1 0 0	200,000	N. S. Wales	Winchester Ho. E.C.
Scotty's Hauraki...	2/3 3/	2/6 3/	5/	—	0 2 0	400,000	N. Zealand	5, Drapers gardens
So. Londonderry...	2/ 3/	2/ 3/	1 0	—	0 19 0	200,300	Cool. W. A.	20, Bucklersbury.
Spondley Finance	⅛ ⅜ pm	⅛ ⅜ pm	—	—	—	—	W. Austral	
Stray Shot & Excl	¾ 1	¾ 1	1 0	—	1 0 0	—	Pilb., W A	30, S. Swithin's lane.
Tararu ...	3/6 4/6	3/6 4/6	10/	—	0 3 0	90,000	N Zealand	Dashwood House,
Town Prop. of W A	⅛ ⅜ pm	⅛ ⅜ pm	1 0	—	0 10 0	250,000	W. Austral	28-9, S. Swithin s-l
True blue ...	1⅛ 1⅜	2 1/16 2 3/16	1 0	—	1 0 0	—	,,	Dashwood house.
Victoria Associatn.	—	—	1 0	—	1 0 0	144,000	Chr. Tow.	6, Crosby-square
Victory ...G	7/ 8/	7/ 8/	5/	-/3 Oct. '95	0 5 0	40,000	Queenslnd	32, Gresham-st., E.
Waihi ...G	5¾ 6	6 6¼	5/	-/3 May, '94	1 0 0	160,000	N. Zealand	11, Abchurch-ln. E.C
Waitekauri ...	3⅞ 4⅛	4 4¼	1 0	2/- Sep 12 '95	1 0 0	136,000	,,	
,, Extended ...	⅜ ⅝	⅜ ⅝	10/	—	0 10 0	130,000	,,	63, New Broad St.
Waratah ...G	8/6 9/6	8/6 9/6	10/	—	0 10 0	100,000	Crydn,N Z	43, Threadneedle st
Water Trust Min.	⅛ ⅜	1⅛ 1⅜	1 0	—	1 0 0	120,000	W. Austral	Broad Street House
W. of Nations...	¾ ⅞pm	⅝ ⅞ pm	1 0	—	1 0 0	—	—	54, Old Broad-st. E.C
Wentworth ...G	⅞ 1	1 1⅛	1 0	1/- Aug 14 '95	1 0 0	500,000	N. S Wales	4-6, Throgmort. Av.
W. Argentine ...G	1/ 1/6	1/ 1/6	1 0	—	1 0 0	150,000	N. Zealand	3-5, Queen-street.
W. Aust. G.Conces	1⅛ 1⅜	2⅛ 2⅜	1 0	2/- Sep 27 '95	1 0 0	255,000	W. Austral	33, Old Broad st., EC
W.A.Ex. & Fin.	3 3¼	3⅝ 3⅞	1 0	2/- May 10 '95	1 0 0	200,000	,,	54, ,,

AUSTRALIAN AND NEW ZEALAND MINES—(Continued).

Name.	Closing Price, Nov.22,1895	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
W. A. General...	4 4½pm.	5¼ 5¾ p m	1 0	—	1 0 0	—	W. Austral	28, St. Swithin's-ln.
W.Australian G.F.	5¾ 6	6⅜ 6⅝	1 0	5/- Aug 14 '95	1 0 0	65,000	Coolgardie	28-29, ,,
W. Aust. Mining	5/ 6/	9/ 10/	1 0	/5 Oct 16 95	1 0 0	104,141	W. Austral	257, Winchester Ho.
W. Aust. Pioneer.	1 1⅛ pm	1¾ 2 pm	1 0	rts Oct 19 95	0 15 0	19,993	,,	139, Cannon-street.
,, Share Corp.	⅛ ⅜pm	⅛ ⅜ pm	1 0	—	0 5 0	200,000	,,	28, St. Swithin's ln
,, Trust ...	⅛ ⅜ pm	⅛ ⅜ pm	1 0	—	1 0 0	50,000	,,	54, Old Broad Street.
West Boulder ...	¾ 1	1 1¼	—	—	—	—	—	
Westralia ...	¾ 1	1⅛ 1⅜	1 0	—	1 0 0	—	—	Winchester House.
White Feather ...	1¾ 2	2⅛ 2⅜	1 0	—	1 0 0	60,000	Coolgardie	28 & 29, S. Swithin's ln
,, ,, United	⅞ 1	⅞ 1	1 0	—	1 0 0	75,000	,,	139, Cannon-street
Zapopan...G	5/3 5/9	5/3 5/9	1 0	—	1 0 0	25,000	N W Austra	70, Bishopsgate-street
Zeehan Montana S	—	—	1 0	-/4 May 95	1 0 0	66,000	Tasmania	11, Queen Victoria st
,, ...	—	—	1 0	2½ May 95	0 2 6	12,000	,,	,,

NORTH AMERICAN MINES.

Name.	Closing Price, Nov.22,1895	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alaska Mexican...G	1⅛ 1⅜	1⅛ 1⅜	$5	7 1-5d. July,95	$5	160,000	Alaska......	30, St. Swithin's-ln
,, Treadwell G	5¾ 5¾	5¾ 5¾	$25	1/6 July, '95	$25	200,000	,,	,,
Almada and T....S	-/9 1/	/9 1/	2/6	—	0 2 0	351,008	Mexico ...	6, Queen-street-place
American Belle...S	1/3 1/9	1/3 1/9	1 0	-/6 Mar. '91	1 0 0	398,890	Colorado	25A, Old Broad-street
Anglo Mexican ...S	—	—	5 0	2/- Sep. 95	5 0 0	74,850	Mexico ...	23, College Hill.
Arizona (Pref.) Cu	43/6 43/9	51/6 52/-	4 0	1/- July '95	4 0 0	158,920	Arizona...	74, Geo.-st., Edinbor
,, 6½ A Deben.	105⅜	105¾	100 0	6½% May '95	100 0 0	£135,300	,,	,,
,, 7% B Deben.	93⅛	93½	100 0	7% May '95	100 0 0	£181,300	,,	,,
De Lamar...GS	19/ 20/	19/6 20/6	1 0	1/- Oct. 30 '95	1 0 0	400,000	Idaho	6, Drapers-gardens.
Dickens Custer GS	1/ 1/6	1/6 2/	1 0	—	0 19 9	420,000	,,	Winchester Ho. E.C
Doric...G	2/3 2/9	2/3 2/9	5/	—	0 5 0	125,000	Colorado...	
Elkhorn ...S	2/6 3/	2/9 3/3	1 0	-/3 June 26 '95	1 0 0	175,007	Montana	6, Draper's-gardens.
Emma ...S	-/6 1/-	-/6 1/-	5/	—	0 5 0	403,618	Utah	15, Geo-st. Mansn. Ho
Gen. M'g. Assoc. ...	6⅛ 7	6⅛ 7	5 10	14/- Apr. 95	5 10 0	27,469	C. Breton	Blomfield House.
Golden Feather G	5/16 ⅜	4/ 6/	1 0	—	1 0 0	180,000	California	S. Stephens Cs E.C.
,, Gate ...G	3/ 4/	3/6 4/6	1 0	—	0 19 6	79,600	,,	,,
,, Leaf... G	2/ 2/6	2/ 2/6	1 0	—	1 0 0	300,259	Montana	8, Draper's Gardens.
Harquahala... G	5/6 6/	6/3 6/9	1 0	-/6 Oct., '94	1 0 0	300,000	Arizona ..	6, Draper's Gardens.
Holcomb Valley G	-/9 1/3	1/ 1/6	5/	—	0 5 0	540,000	California	14, Cornhill, E.C.
Jackson Goldfields	1/ 1/6	1/6 2/-	5 0	—	0 5 0	408,635	California	11, Poultry, E.C.
Jay Hawk (New)G	1/- 1/6	1/- 1/6	1 0	-/6 Dec. '92	0 19 3	285,000	Montana	Dashwood House.
La Plata...S	1/3 1/9	1/9 2/3	5/	1/3 Oct. '82	0 4 6	405,000	Colorado	11, Poultry, E.C.
La Yesca ...GS	1/9 2/3	2/6 3/	1 0	—	0 19 6	200,000	Mexico ...	20, Bucklersbury, EC
Mammoth Gold ...	—	1/ 1/6	1 0	—	1 0 0	400,000	Pnal, Ariz.	257, Winchester Ho.
Mesq. d'l Oro (P) G	—	—	5 0	—	5 0 0	10,000	Mexico ...	Dashwood Ho., E.C.
,, (D) G	—	—	5 0	—	5 0 0	10,000	,,	,,
Montana ... GS	7/- 7/6	7/ 7/6	1 0	-/3 Sep. 27, '95	0 19 0	657,158	Montana	Gresham House, E.C.
New Colorado ...S	—	—	1 0	—	0 19 6	34,503	Colorado	8, Geo. Ho., E'cheap
,, Gold Hill...G	—	—	1 0	—	0 19 9	191,045	N Carolina	15, George-st., E.C.
,, Guston ...S	¼ ½	¼ ½	1 0	1/- Oct. '92	1 0 0	110,000	Colorado	25A, Old Broad-st.
,, Hoover Hill G	-/6 1/-	-/6 1/-	10/	-/9 Dec. '85	0 10 0	120,000	N Carolina	Langthorne Ho., E.C.
Palmarejo ...GS	1/3 1/9	1/6 2/	1 0	—	1 0 0	418,888	Mexico ...	32, Old Jewry, E.C.
Parral Cons. ...GS	⅝ ⅞	¾ ⅞	1 0	—	1 0 0	121,007	,,	Palmerston Bldgs., EC
PinosAltos(Df)GS	⅛ 3/16	⅛ 3/16	1 0	-/6 Mar.' 90	1 0 0	100,000	,,	110, Cannon-street.
,, 15% Cum Pref	⅞ 1	⅞ 1	1 0	—	1 0 0	60,000	,,	,,
Richmond ...GSL	⅞ 1⅛	⅞ 1⅛	5 0	1/- Nov. '94	5 0 0	54,000	Nevada ...	44, Coleman-street.
Sierra Buttes ...G	⅛ ⅜	⅛ ⅜	2 0	-/6 Oct. 30 '95	2 0 0	122,500	California	138, Leadenhall-st.
Do. Plumas Eur. G	⅛ ⅜	⅛ ⅜	2 0	-/9 Oct. 30 '95	2 0 0	140,266	,,	,,
Springdale...G	1/- 1/6	1/3 1/9	$1	-/2 Sep. 28, 94	$1	1,000,000	Colorado	20, Abchurch Lane.
Twin Lake Placers	1¼ 1⅜	1¼ 1⅜	0	3/- Feb. '95	1 0 0	26,000	,,	5, Lawrence P. Hl. E.C

SOUTH AND CENTRAL AMERICAN MINES.

Name.	Closing Price, Nov.22,1895	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Anglo-Chilian Pt N	8 8¼	8 8¼	10 0	13/11 1-5 Jun 95	10 0 0	35,000	Antofagst.	123, Bishops.-st. W.
,, 6% RylstMB	106 108	106 108	100 0	6% July, '95	100 0 0	£200,000	Antofagst.	
Antio. (Pref.) G.S.	—	—	1 0	-/6 Mar. '90	0 0	22,823	Colombia	184, Gresham Ho.
Antioquia (ordiny)	—	—	1 0	—	0 0	42,453	,,	184, Gresham Ho.
B. Guiana Prosp.	—	—	—	25% Oct. 95	—	—	Brit. Guan	
Caratal...G	-/9 1/-	-/9 1/3	2/6	—	0 2 6	1,330,000	Venezuela	57, Moorgate-st. E.C
Caylloma...S	—	—	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall street
Colon ...G	-/9 1/3	-/9 1/3	5/	—	0 4 0	200,000	Colombia	5, Copthall-bdgs., E.C
Colorado Nit. ...N	1⅛ 2	1⅛ 2	5 0	4/- May, '95	5 0 0	32,000	Chili	12, King-st., Liverp'l
Colombia...G	—	—	20 0	10 frs. Aug. 94	2 0 0	—	Venezuela	Ciudad Bolivar.
Colombian Hy...G	7/16 9/16	7/16 9/16	1 0	1/- Jy 26, '95	1 0 0	75,000	Colombia	10, Blomfield-street
Copiapo ...C	1 13/16 1 15/16	1 13/16 1 15/16	2 0	1/6 My 24, '95	2 0 0	100,000	Chili	Dashwood House, E.C
Darien "A" ...G	2¾ 3	2¾ 3	1 0	—	1 0 0	49,553	Colombia	Manchester.
,, "B" ...	3⅝ 3⅞	3¾ 4	1 0	—	1 0 0	30,000		,,
Don Pedro...G	1/ 2/	1/6 2/6	1 0	—	1 0 0	133,102	Brazil......	24-5, Devonsh. Cs E.C
El Callao ...G	⅜ ⅝	⅜ ⅝	5 0	9½d. Feb. '94	5 0 0	257,600	Venezuela	8, Bishopsgt.-st, Wn
Frontino & B....G	1⅛ 1¼	1⅛ 1¼	1 0	6d. Oct. 16 '95	1 0 0	128,662	Colombia	184, Gresham House
Glenrock ...G	2/- 2/6	2/ 2/6	1 0	—	1 0 0	199,948	Arg. (& I.)	3-5, Queen-street, E.C
Gravel...G	3/6 4/6	3/6 4/6	1 0	—	0 18 6	100,000	Colombia	10, Blomfield-street
Guadalupe ...GS	3/6 5/-	3/6 5/	1 0	—	1 0 0	180,000	Honduras	1A, Union ct. Old Brd
Huanchaca ...S	—	—	5 0	4/- Sept. '94	5 0 0	320,000	Bolivia ...	10, Avnu. d'Alma, Paris
Javali ...G	—	—	2/	8½% '91	0 2 0	105,234	Nicaragua	139, Cannon-street.
Julia Taltal ...N	⅛ ⅜	⅛ ⅜	1 0	—	1 0 0	500,000	Chili	79½, Gracechurch-st.
Lagunas ...N	2¼ 2¾	2¼ 2¾	5 0	15p.c. Dec.'94	5 0 0	120,000	Tarapaca	3, Gracechurch st.
Lautaro ...N	4¾ 5¼	4¾ 5¼	5 0	7/6 June 95	5 0 0	110,000	Chili	70, ,,
Liverpool ...N	9 10	9⅛ 10¼	5 0	15/-May, 95	5 0 0	22,000	,,	Liverpool.
Loma ...G	1/- 1/6	1/- 1/6	1 0	—	1 0 0	300,000	Colombia	5, Copthall-building
London Nit....N	1⅛ 2	1¾ 2¼	3 0	3/4¾ Nov. '89	5 0 0	10,000	Chili	9, Gracechurch-st.
,, Nit.(Pref.)	3 4	3¾ 4¼	6 0	8% Nov. '94	6 0 0	22,000	,,	,,
Macate ...	1/6 2/	1/9 2/3	2/	—	0 2 0	200,000	Peru	11, Old Broad-st. E.C
New Tamarugal N	⅛ ⅜	⅛ ⅜	1 10	1s. Dec. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
,, 8% Cum Pref	⅜ ⅝	⅜ ⅝	1 10	8 p.c. Feb. '95	1 10 0	130,000	,,	,,
,, 6 p.c. Debs ...	78 80	78 80	100 0	6 p.c. Aug. '95	100 0 0	£260,000	,,	,,
Orita...G	1/3 1/9	1/3 1/9	1 0	1/- April '89	1 0 0	30,000	Colombia	10, Blomfield-street.
Ouro Preto ... G	—	—	1 0	1/- Aug. '95	1 0 0	80,000	Brazil	6, Queen-street-place
Pac. & Jazpampa N	1⅛ 2	1⅛ 2¼	5 0	4/- May, '95	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Primitiva ...N	⅛ ⅜	⅛ ⅜	5 0	20% Oct. '89	5 0 0	40,000	Chili	Liverpool.
Quebrada ... C	⅛ ¼	⅛ ¼	3 0	5% Mar. '92	3 0 0	241,956	Venezuela	38, Nicholas Lane.
Rosario ...N	4⅛ 5	4⅛ 5	5 0	5/-Aug.14 '95	5 0 0	120,000	Chili	57½, OldBroad-street
,, (5% Deb.)	106 109	106 109	100 0	5% Oct. 1 '95	100 0 0	£475,000	,,	
Do. HuaraDeb Scrp	106 109	106 109	100 0	5% July 1 '95	100 0 0	£200,000	,,	
St. John del Rey G	15/16 1 1/16	1⅛ 1¼	1 0	x, rtsNov 13 '95	1 0 0	327,650	Brazil	Finsby.Ho., Blmf'd st
San Donato ... N	1¼ 1½	¾ 1¼	5 0	2/6 May 24 '95	5 0 0	32,000	Chili	12, King-st., Liverp
,, Jorge ...N	4¾ 5¼	4¾ 5¼	5 0	5/ Oct. 16 '95	5 0 0	75,000	,,	9, Gracechurch-st.
,, Pablo ...N	1⅛ 2	1⅜ 2¼	5 0	5/ Oct. 30 '95	5 0 0	32,000	,,	
,, Sebastian ...N	1⅝ 1⅞	1¾ 2	5 0	5/ May 24 '95	5 0 0	29,000	,,	Dashwood House E.C
Santa Barbara ...G	—	—	10/	1/3 Dec. '86	0 10 0	60,000	Brazil	Liverpool
,, Elena ...N	¼ ⅛	¼ ⅛	5 0	5/-Nov. 15 '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
,, Rita ...N	2 2⅛	2¼ 3⅛	5 0	10/May 24 '95	5 0 0	20,000	Chili	Dashwood House, E.C
Segovia ...G	—	—	5/-	—	0 5 0	120,000	Colombia	5, Copthall-buildings
Sucre Pref...G	—	—	1 0	10% July '95	0 15 0	840	,,	23, St. Swithin's ln.
,, Ord...G	—	—	1 0	10% July '95	1 0 0	10,000	,,	,,
Tolima "A" ...S	7¾ 8¾	7¾ 8¾	5 0	10/- Jy 11, '95	5 0 0	14,000	,,	18, Finsbury-circus.
,, "B" ...S	5¾ 6¾	5¾ 6¾	5 0	10/- Jy 11, '95	5 0 0	6,000	,,	,,
Vic. & Altamira ...	/9 1/3	1/3 2/3	5/	—	0 5 0	200,000	Venezuela	Broad-st. Avenue.
,, Pref. ...	1/6 2/-	1/6 2/	—	—	—	—		
West Indian. ...G	—	—	1/	—	0 1 0	1,725,585	San. Dmgo	110, Cannon-street.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, Nov.22,1895	Closing Price, Nov. 15, 1895.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Asia Minor Pref. St.	—	—	10/	—	0 10 0	42,430	Asia Minr	2, Metal Ex Bldgs.
,, Ord. ...	—	—	10/	—	0 10 0	52,858	,,	
Balaghat Mysore G	3/ 3/6	3/6 4/6	1 0	—	0 19 0	159,945	India	6-7, Queen-street-pl
Burma Ruby...R	15/- 16/-	15/ 16/	1 0	—	0 18 0	298,551	Burmah...	Suffolk House E.C.
ChampionReef...G	4¾ 4⅞	4 13/16 4 15/16	1 0	New Oct, 30 '95	1 0 0	200,000	India	6-7, Queen-street-pl.
Colar Central ...G	1/3 1/9	1/3 1/9	1 0	—	1 0 0	200,000	,,	Dashwood Ho., E.C.
Coromandel... G	⅝ ¾	⅝ ¾	1 0	—	0 17 6	95,000	,,	6-7, Queen-st.-place
GoldFldsMysore G	18/ 19/	19/ 20/	1 0	1/- July '92	1 0 0	275,000	,,	6-7, Queen-street
Hyderabad Dec....	2⅝ 3⅜	3⅞ 4⅛	5 0	—	5 0 0	115,000	Deccan ...	16, St. Helen's-place
KempinkoteGdFd	1/3 1/9	1/9 2/3	5/	—	0 3 6	750,000	India	6-7, Queen-st.-place.
Mysore ... G	2⅞ 3	2 15/16 3 1/16	1 0	2/6 Oct. 30 '95	1 0 0	248,354	,,	6-7, Queen-street pl.
My. Harnhalli ...G	1/3 1/9	1/6 2/	1 0	—	0 18 0	100,007	,,	2, East India Avenue
,, Reefs ...G	5/16 7/16	7/16 ⅝	1 0	—	1 0 0	160,000	,,	6-7, Queen-street-pl.
,, West(N)G	1 1⅛	1 1/16 1 3/16	1 0	—	0 19 0	127,408	,,	20, Bucklersbury.
,, Wynaad G	1 1⅛	1 1⅛	1 0	—	0 19 0	125,000	,,	,,
Nine Reefs ...G	2/ 3/	2/9 3/3	10/	—	0 10 0	250,000	,,	6-7, Queen-street-pl.
Nundydroog... G	1⅝ 1⅞xd	1⅞ 2xd	1 0	1/6 Nov 14 '95	1 0 0	200,000	,,	,,
Ooregum (Df.O.)G	2 15/16 3 1/16	2 15/16 3 1/16	1 0	2/- Aug 14 '95	1 0 0	145,000	,,	,,
,, (10% Pref.).	3⅞ 4	3 13/16 3 15/16	1 0	4/- Aug 14 '95	1 0 0	107,011	,,	,,
,, (10% Pref.).	3⅝ 3¾	3⅝ 3¾	1 0	2/- Aug 14 '95	0 5 0	12,989	,,	,,
Panang Kabang T	1/16 3/16	1/16 3/16	1 0	—	1 0 0	200,000	Malay Pn.	4a, Jeffrey's sq. E.C
Straits Developmt.	⅝ ¾	⅝ ⅞	1 0	—	0 19 0	184,292	Pahang ...	15, Copthall Avenue.
Yerrakonda ...G	1/ 2/	1/ 2/	4/	—	0 2 6	187,491	Mysore ...	6-7, Queen-street-pl

SIDE LIGHTS ON THE LAW:

Legal Jottings on Cases in the Courts, and on Questions affecting Mining, Railway, Financial, Industrial, and allied Interests.

BY A BARRISTER.

THE gathering clouds in the East of Europe are at the present moment of so threatening a character that men are asking one another what is likely to happen. War with another country is an event which, fortunately for this country, has of late been of such rare occurrence that its effect on commercial relations has long since been forgotten, and has become a mere matter of history. Few, indeed, are there among us who realise that in the event of a war breaking out between this country and another, so long as the war lasts the individual subjects of one are in law considered to be at war with each of the subjects of the other, and that for the time being they are incapable of entering into any valid contract with one another which can be enforced in any court of law in either country, even after the war is concluded. More than this, all remedies available by the one against the other in respect of transactions before the war are suspended. At a moment when it is difficult to forecast the events of the next few weeks, if Englishmen were accustomed only to enter into such contracts as they knew they would be able to enforce at law, rumours of war would be more disastrous than they are. The spirit of enterprise of our countrymen is, however, strong. It is interesting to recall that in the middle of the last century, when England and France were at war with one another, and notwithstanding the formal declaration of war of 1756, which prohibited "all correspondence or communication with the French King or his subjects," English insurances of French property were continued; and this wasso, notwithstanding the French Courts held that the insurance of English property was null and void. French law writers have observed upon this with a degree of surprise, and when one recollects that by a uniform course of decisions both of this and all other countries, contracts made in time of war between subjects of the belligerent nations have always been declared illegal, one is inclined to share the surprise, and at the same time to admire, the pluck and enterprise of Napoleon's "nation of shopkeepers."

THE complications which might arise on a war breaking out in the relations of traders will be much accentuated in the present day owing to the general intercourse between the different countries. So many houses have partners resident in other countries. The result of the law that contracts between subjects of belligerent states are illegal is that all partnerships are dissolved if two partners are resident in the two different countries between which the war occurs. For the purpose of the application of this law, each person is considered as a subject of the country in which he is voluntarily resident, and as has been well said, it is the place of his residence or trading, and not the place of his birth, which is of importance in these matters. Therefore, if a foreigner enters into partnership in this country and dwells here, and war were to break out between this country and that of which he is a native, the partnership will not be effected while he remains in this country any more than if he were an Englishman. In the same way, if a partnership consists of Englishmen, some residing here and some in the country at war with this, the partners become enemies for the purpose of trade and commerce as if those abroad were natives of the country in which they reside. Nowadays the formal declaration of war is no longer in use. The withdrawal of the ambassador accredited to the Foreign Court is generally the first sign of hostilities. The commencement of open hostilities has the same effect as regards the commercial relations of the respective subjects of the nations concerned as a formal proclamation without having the advantage of being as explicit.

LAST Wednesday, disconsolate, I roamed through the Courts which once were crowded with litigants seeking civil justice at the hands of judges of the Queen's Bench division. One by one I passed them, each empty and deserted. At last I came on one, the only one remaining, and here I witnessed "the survival of the fittest" in the person of the Lord Chief Justice, who alone remained to dispense justice in the middle of Michaelmas term to those requiring the assistance of the common law of the land. Thence I went to Appeal Court I. Here I found the Master of the Rolls and two other judges hearing an appeal. I had not been long there before I heard declared from the Bench a principle of which the Court seemed proud, and which at first seemed to throw some light on the reason for the desert region I had passed through. It was in these words: "The Court has never allowed itself to be made a machine for the enforcement of the payment of money." It was no jest, but said in real earnest. Here, then, I thought is some candid confession, and bitterly I was inclined to think 'tis too true; the machine is not for collecting money, but for the manufacture of costs. I had, however, been too hasty, for further attention disclosed that the Court was engaged upon that frequent topic in these days, the misconduct of a solictor, and was declaring that the penal machinery of the Court for striking him off the Rolls, should not be allowed to be used where the sole object of the application was not to punish the offending solicitor, but to make him disgorge.

THE long weary trial of the "Queen *v.* Balfour and other for fraud in connection with the Land's Allotment Company, has been concluded, and Balfour has been found guilty on 21 counts of the indictment. Of the other directors charged, Brock and Theobald have been found guilty, and as to Dibley, the jury have disagreed. A further trial has been commenced against Balfour in what is known as the Whitehall Court case. However, what little interest remained as to what would be the issue of the prosecution of Jabez Balfour has gone, and men only now speculate as to what will be his sentence.

IN this aspect of the matter, the result of the further trial can have little interest either to Balfour or the public, since Jabez Balfour is already a man well on in years. His sentence, whatever it may be, cannot, after such a conviction as has already happened, be an inconsiderable one. The possibility of the penalty is such that the period for which he might be ordered to be sent to penal servitude might exceed the span of life which, in the ordinary course of Nature, may remain to him. In the memorable case of the Tichborne Claimant, now known in the books as the "Queen *v.* Castro," it has definitely been held that the Court has jurisdiction to impose the full penalty on each count of the indictment containing a different charge on which the prisoner has been found guilty. The penalty imposed by the statute under which Balfour has been found guilty is seven years for each offence. Balfour's conviction covers at least a dozen separate and distinct offences, and were the full penalty inflicted, and the sentences, as in Castro's case, ordered to run successively, the term would exceed the period allotted to the life of man.

A POINT of some importance was disposed of by Mr. Justice Bruce which had been taken by Mr. Marshall Hall who appeared for Brock, under Section 85 of the Larceny Act, under which statute the indictment was framed. By that section no person is to be convicted on evidence which he shall have first disclosed on oath in the course of a public compulsory examination.

IN the course of the trial, evidence had been used which had been given on oath by Brock, in the proceedings for winding up the Land's Allotment Company, and it was objected that such evidence could not be used to convict him. Mr. Justice Bruce, however, ruled that as the evidence given by him was of matters which were already public knowledge, they were not first disclosed by Brock, such disclosure meaning the revelation of that which was a secret. This appears to be a somewhat narrow construction, but seems to be justified by authority.

THE PHOSPHATES OF ALGERIA.

Translated from *Le Figaro*.

THE *Figaro* of the 16th inst. devotes a long article to this interesting subject, from which we quote at some length. It says:—

"The report of M. Mastier, Director of the Departmental Administration, on the phosphates of Tebessa, has been sent to M. Doumergue, reporter of the Budget of Algeria.

Let us premise by saying, that when the three commissioners ordered to make an enquiry on the deposits of phosphates left France, they received from the Minister of the Interior formal instructions to ascertain before anything else the legal means of annulling the concessions which had been granted. This was the wish of Parliament and the General Council. As soon as they arrived at Algeria, Messrs. Mastier, Peslin, and De Saligny were put in communication with two individuals able to find the means by which it was sought to justify the nullification. These two persons were M. Sanbet and M. Robbe. The first part of the report of M. Mastier, therefore, appears only to be the echo of the opinion of these latter gentlemen.

"The report of the Director of the Departmental Administration to the Minister of the Interior is divided into two interesting parts, viz.:—The report itself, which deals with the valuation, discussion, and final results; and the appendix, which contains a reproduction of the documents and testimony of the numerous witnesses heard by the Commission. Without doubt, the appendix is much more interesting, as it contains the foundation of the whole affair, while the report deals specially with the question of the legality, and with the vigorous measures taken against certain functionaries. The nullification of the concessions is based solely on the question of law—on the irregularity of the granting of the concession. The report declares that the concessions were granted under a form of bail, whereas they should have been granted under a form of sale. A decree of the Court of Appeal lays it down that quarries cannot be granted by bail for the simple reason that under bail the places rented must be rendered up in their primitive condition.

"Now, such a thing is impossible in the case of a quarry, seeing that it can be exploited only by disturbing the condition of the soil. The location of a quarry, therefore, cannot be an ordinary location, because that is removed, which in the case of hire must be rendered up at the end of the specified period. In principle, therefore, they were not concessions, and it is necessary they should be sold, but a sale must be sanctioned by the Governor-General with the ordinary formalities. After having demanded the nullification of the concession, M. Mastier has laid stress upon the deposits of phosphate, and the complicity of certain functionaries in the manœuvres to which they resorted in obtaining the concessions. It is a matter of public knowledge that, in consequence of the publication of this report, two of these functionaries have been recalled, a third has been unattached, and a Prefect has been displaced. M. Esménard has been dismissed, whilst Messrs. Boet and Perrette have been recalled. M. Mengarduque, late Prefect of Constantine, has been displaced. The report states that M. Boet had a concession of phosphate granted to him in the name of M. Barboutie, and that the request for the concession was written in M. Boet's hand, who also signed the name of M. Barboutie. It is explained, however, that the latter authorised the former to sign for him. This demand was dated August 28, 1893. On September 1, M. Esménard gave orders to the Municipal Commission of the Commune of Morsott to examine the demand of M. Barboutie, and to made him acquained, as soon as possible, with the the decision arrived at. Naturally this decision was in accordance with the wishes of Messrs. Esménard and Boet. The concession was granted to M. Barboutie, and he immediately left his employment to exploit the phosphates. The commissioners were of opinion that the part played by M. Esménard was not in accordance with his duty. The depositions contained in the appendix reveal on one particular day the manner in which the concession was granted to Boet and Co., therefore the irregularities, not to say, frauds, committed on this occasion, should have been made public at the first moment, but, on the contrary, they were immediately suppressed. What is the influence that has conduced to this end?

"Passing on to the concession acquired by M Bartagna, the secretary of the Commune persuaded an Arab, Salah Ben Khelil, to assist in searching for the beds of phosphate. The Arab sold his title to M. Bertagna. The latter was then able to treat with M. Jacobson, and to sell to this gentleman the concession. The contract made with M. Jacobson is dated August 29. The request for the concession was dated September 11. On the 21st of the latter month, on the written order of M. Esménard, the Municipal Commission of Morsott granted the concession, and on the 25th it was approved by M. Esménard, in accordance with the instructions of M. Mengarduque. Now the latter was no longer Prefect of Constantine after September 18.

"There is also another curious thing recorded. A certain M. Pilossieux, acting for M. Tochè, banker, and President of the Chamber of Commerce of Bone, examined the phosphate deposits on the slope opposite to the concession of M. Bertagna. He made a request for the concession, and it was a matter of public knowledge that this portion had never been granted. He was told, however, that it was included in M. Bertagna's concession, although this was a distance from it of four kilometres.

"What had happened in the meantime? A very simple thing. M. Bertagna, having been apprised of this by the agents of the Prefecture, was advised to seek the extension of his concession. But the Prefecture could not do this, for it had been disposed of by the Governor-General. The Municipal Commission likewise refused. But M. Bertagna was not upset. Another plan was resorted to, in which the concession demanded by M. Pilossieux was comprised in that formerly obtained by M. Bertagna, and this plan was substituted for the first. At least, this is what may be gathered from a deposition.

"It also gives the evidence of M. Camillieri, who pretended to have obtained on September 21, 1893, a concession from the Commune of Morsott, at the same time as Messrs. Boet, Company, and Bertagna. But the other concessions were approved by the Prefecture, whilst that of M. Camillieri was not.

"Such are the transactions which have caused rigorous measures to be taken against these functionaries."

INTERVIEW WITH Mon. BERTAGNA.

The same paper publishes an interview with M. Bertagna, from which particulars may be gleaned most interesting in the light of later events.

The interviewer found great difficulty in bringing M. Bertagna out, the latter deeming that silence was the best answer to what he described as "the odious and ridiculous attacks which have been made against me, with an object which can easily be defined. Everybody knows from what sources these attacks emanate."

The interviewer informed M. Bertagna that the public were ignorant of the reasons why recourse was had to English capital, and why such great national wealth was allowed to pass into the hands of strangers.

M. Bertagna replied, "The reason is very simple. The day on which Madam Laporte obtained without competition (and he laid emphasis on the word competition) the first of the three concessions, she found no one among French capitallists who would assume the management of the mines. Up to the present time these magnificent deposits of phosphate have received some severe checks and undergone tremendous losses. What is not generally known is that formerly M. Wéterlé, a resident of Soukaras, obtained in the same region the exploitation of phosphates belonging to the same basin and in the same geological district as those of Tébessa. Now, he conceded these concessions to an English company, and 1,200,000 francs were spent in that disastrous enterprise. No one dreamt of blaming M. Wéterlé for granting this concession to an English company. Besides, did not this company—the Packard Company—exploit phosphate deposits elsewhere?—namely, in the very centre of France, in the Somme and the Lot? In a word, the ruin was absolute, and we can still see at Soukaras the machinery which was abandoned, after it had been vainly offered for a small sum. An identical exploitation, that of the phosphate deposits of Chelif, Province d'Oran, failed in a similar manner. You will admit that this was not encouraging. The competent services of the State recognised at once the contingent character of these enterprises, and it was for that reason that they fixed the rent to be paid to the Commune of Morsott at 25 centimes per ton of the mineral extracted. This sum was a small one certainly, but it was stopped by the engineer of the mines himself—M. Lantenois—who was consulted by the Prefectorial Administration."

He was then asked, "But would you not have been better able yourself to obtain for your own enterprises the assistance of French capital?"

He replied, "I have done all that is possible to gain this end. I have made application to several financial houses, but each have replied by a refusal. Being unsuccessful in obtaining French capital, I, therefore, accepted the financial assistance of an Englishman, M. Jacobson, who, by-the-bye, has been established at Bone over 20 years; ostensibly, therefore, it was with a resident of our own town, who has numerous interests in the country, that I came to terms."

In reply to another question, M. Bertanga said, "Since the commencement of the exploitation of these deposits—that is to say, about 30 years up to June 30 of the present year—61,000 tons have been extracted, but in time this can be increased to 100,000 or 120,000 tons a year by working night and day."

Questioned as to the progress made in the formalities of granting the concessions, M. Bertagna replied:—"The demand for the first concession was made by Madam Laporte on the 18th December, 1890, but the decision of the Prefect of Constantine was dated January 19, 1895. Three years, therefore, elapsed between the first and last acts of the administrative formalities. It was on the 15th November, 1892, that the Commune of Morsott granted to Salah Ben Khelil the right to exploit the deposits of Kouif, which he discovered. It was in the month of March of the following year that he conceded to my brother and to myself his eventual rights, after having failed in getting elsewhere the necessary capital to exploit them. It was not until the 19th of January, 1894—that is to say, 14 months after the concession was granted to Salah Ben Khelil, that there intervened, after full examination and public enquiry, the prefectorial order approving of the bail agreed to by the Municipal Administration. A certain M. Cossé, of Bone, had claimed for himself the right of priority. A protracted enquiry was made at Tébessa by M. Oppetit and M. Lantenois, and it was not until nine months after the vote conceding this contract to Salah Ben Khelil that the conclusions of the report were published, all in favour of the latter. Can anyone suggest, with a shadow of good faith, that one has acted in a clandestine manner? The truth is that all the formalities have been scrupulously and minutely fulfilled."

"But what about the third concession, that granted to Messrs. Boet and Barboutie? There have been no delays in the formalities of these?"

"Permit me," said M. Bertagna, "not to enter into the discussion. If you wish to have my sincere opinion on this matter, let me tell you that the severe attacks which have been made have had serious consequences."

"But you are reproached, M. Bertagna, with having, to the prejudice of M. Pelossieux, had granted to you in your concession, a deposit which did not belong to you."

"This accusation is both inexplicable and purile. My contract says that the Commune of Morsott concedes to me the exclusive right of exploiting the deposits of phosphate in the limestone situated in all the districts of Djebel-Kouif. The limitation, therefore, cannot be more precise, and cannot be modified either by any caprice on our part, or by any kindness on the part of the superior Administration."

MR. A. F. CALVERT IN WEST AUSTRALIA.—A cablegram has been received from Perth, stating that Mr. A. F. Calvert reached Albany on Wednesday, and was met by the Secretary of Mines and other officials. He afterwards attended a banquet given in his honour by the Premier of Western Australia (Sir John Forrest), and subsequently left for Coolgardie, and proceeds on the 28th inst. for the North-West. He has forwarded to the companies in which he is interested very satisfactory reports which met him upon his arrival concerning the progress which is being made, and these reports will doubtless be published in due course. During the speeches at the banquet, Sir John Forrest intimated his intention of visiting England about the middle of January. In addition to expressing in writing his willingness to accept half the monetary responsibility of seeing the resources of the colony properly represented in London by means of an exhibition, Mr. Calvert suggested the establishment of a Perth branch of the Royal Geographical Society, with the object of sending out exploring expeditions to complete the task of the ill-fated *Elder* expedition, and incidentally to test the Ashburton field. Mr. George Gray, the representative of Hannan's Proprietary and the Colonial Finance Corporation, responding to the toast of "The Mining Industries," declared that the water difficulty had nearly been overcome by private enterprise, and that while he viewed the gold fields with disfavour on his first arrival in the colony, he now believed that they were the greatest in the world.

A London transfer office of the WESTERN MOUNTAIN MINES (LIMITED) has been opened at 120, Bishopsgate-street Within, E.C.

THE GOLD COAST AND THE ASHANTI WAR.

By THOMAS CORNISH, M.A.I.M.E., Author of "Our Gold Supply," &c.

ON my return from the Gold Coast in 1881, I gave, through your columns, an account of my prospecting expedition to that lively country. Although the climate is bad, yet with care and due attention to the living and housing of men, much of its ill-effects can be mitigated. Had my advice been followed as to the development of the gold fields, there would, I am satisfied, have been many important mines in profitable work. It may be remembered that quite a *furore* for West African gold mines set in after my visit to the Coast, but the wasteful and muddling mismanagement that followed brought most of the companies to grief. Amateur authorities made all kinds of ridiculous reports of the said wonderful riches of the Gold Coast. Large sums of money were raised, concessions obtained, and attempts made to commence mining operations under incompetent managers, who were controlled by directors from here equally incompetent.

One enthusiastic amateur, who knew more about washing ships' decks than gold mining, erected an engine and a squirt to hydraulic a mine, but forgot to obtain a supply of water. Many other attempts were equally ridiculous, and nearly all came to trouble, and many of those who went there are past all troubles of this life.

I specially pointed out the necessity of communication with the mining districts being first attended to. Light lines of railway should have been laid down, which could have been done at moderate cost (say) from Tomento, on the Ankobra river, to Tequah to start with.

A light line laid from Axim to the mouth of the Ankobra, where a goods depot could have been formed; steam launches, canoes, and barges manned by natives, would do the river transport. The Ankobra river being navigable to Tomento, and sometimes a long way beyond, is the most natural waterway for expeditions going inland to prospect for gold, or for penetrating into Ashanti or beyond that charming country, and Tequah should long since have had its light railway. The trucks for goods and passenger cars might be propelled by native power until engines are available, and thus made an inland depot.

The great loss of life and expense of the last Ashanti expedition is likely to be repeated again unless great care is taken of the men on the march. Many of the men will get exhausted by the upward march in going the former route, and by the excitement of fighting will soon get an attack of fever, to which they will succumb or have to be brought back to the Coast invalided. Now, it requires six native bearers to each invalid, so if a large proportion of the force be knocked up with the upward march, an army of bearers will be needed to bring them back.

If the authorities mean to hold a protectorate over Ashanti (which they should have done long since), a light railway should be built at once from some convenient point on the Coast. Why prefer Axim as a starting point is that the railway would tap the known gold fields, through a healthier climate, where depots can be established on high ground.

The military forces out there could be more usefully and profitably employed in surveying and superintending the construction of light railways for quicker internal travelling, than being idled in the Coast towns, and idling away time that could be spent to better advantage to the men and country.

In my contributions to your columns in 1881, I gave a statement made by "Bosman," who wrote an account of the Gold Coast in the year 1700, which may be interesting to repeat, as also a few remarks of mine.

The work alluded to is entitled a "New and Accurate Description of the Coast of Guinea," divided into the Gold, the Slave, and the Ivory Coasts. Written originally in Dutch, by William Bosman, Chief Factor for the Dutch at the Castle of St. George d'Elmina, written in the year A.D. 1700. The writer appears to have received instructions to make himself acquainted with the history and resources of the Gold Coast, and the country inland as much as possible; and considering the time and circumstances under which he was placed, and the difficulty of acquiring local knowledge, he has handed down a work containing much information of value to those interested in the production of gold and other products in West Africa. His first letter treats specially of the Gold Coast in general, and the country of Africa in particular. He says:—"This country called Axim is cultivated, and abounds with numerous large and beautiful villages, all extraordinarily populous, some of which are situate on the seashore, and others further on the main land. The most considerable amongst the former lie under the Brandenburgian and Dutch forts, of which the latter is much the best. Our fort here is obliged for its present name of St. Anthony to the Portuguese, who were its first masters, but, Anno 1642, were driven from this and several other places by our countrymen, and, indeed, the Portuguese served for setting dogs to spring the game, which as soon as they had done was seized by others. But to return to our fort, which was not great, but neatly and beautifully built, as well as strong and conveniently situated. It is provided with three good batteries, besides breastworks, outworks, and high walls on the land side, as well as a sufficient quantity of guns; and if it were well stored with provisions might hold out against a strong army of natives. Guinea is a large country, extending several hundred miles, abounding with innumerable kingdoms and several commonwealths. The Gold Coast being a part of Guinea, is extended about 60 miles, beginning with the Gold River, three miles west of Assine, lat. 12 above Axim, and ending with the village Pouni, 7 or 8 miles east of Acra. The negro inhabitants are generally very rich, driving a great trade with the Europeans for gold, which they chiefly vend to the English and Zealand interlopers, notwithstanding the severe penalty they incur thereby, for if we catch them their so-bought goods are not only forfeited, but a heavy fine is laid upon them. Not deterred, I say, by this, they still hope to escape, to effect which they bribe our slaves (who are set as watchers or spies over them) to let them pass by night, by which means we are hindered from having much above a hundredth part of the gold of this land,

And the plain reason why the natives run this risk of trading with interlopers is that their goods are sometimes better than ours, and always to be had one-third part cheaper, whereby they are encouraged against the danger, very well knowing that a successful correspondence will soon enrich them."

It appears that for the past two centuries and more the Gold Coast of West Africa has been a great depot for the supply of gold, and for the most part of the time a bone of contention and warfare between various European nations, as also the native inhabitants of the country; but the means and methods by which the natives obtained their supply of the precious metal could only have been of the rudest and most primitive kind. That large supply of gold must have been obtained from this coast there can be no doubt, as along the entire Gold Coast of about 300 miles, forts were built and held by different nations for the purpose of trading, and getting when and where possible a monopoly of the gold trade.

The Dutch at about A.D. 1700 appears to have been the principal traders and factors on the Coast, and to have held and built many of the chief forts. From the admissions of the author of the work I have quoted from they appear to have been adepts in the practice of cheating the natives in their dealings with them for gold. The Ankobra river is situated about two miles west of the town of Axim, and is a beautiful broad, deep stream, so tortuous in its course that the Portuguese called it the Serpentine. It varies from 200 to 300 feet in width past its mouth, the banks lined and shaded with trees, forest scrub, and thick foliage, so dense that you cannot see many feet from the water. Many of the trees are overhanging with climbers growing from the branches down to the water, and are a great resort for monkeys and apes, and on the flats and mud banks are often to be seen alligators. From what can be seen by going up the Ankobra river there is nothing observable indicating auriferous country, and it is only by landing and exploring inland that the auriferous nature of the country can be seen.

If the British Protectorate is to extend over Ashanti and any country beyond, the gold mining question must be the first consideration, and the communication by light railways to the chief towns and gold-producing centres from the Coast towns. The opening of some profitable gold fields in Ashanti and laying down the light railways will be the strongest civilising force for that or any other country.

REPORTS FROM THE MINES.

We find it necessary to announce that, owing to the vast numbers of mines, reports, and items of mining intelligence which reach us invariably very late—up to, and frequently after the time of going to press—it is impossible to guarantee the insertion of all of them in the issue in which, in ordinary course they should appear. We always endeavour, however, to make this important feature as complete as possible, and if the secretaries of mining companies, mining captains, and others would kindly make an effort to let their reports, etc., reach us early on Fridays, when it is not possible to let us have them earlier in the week, their doing so would go far to ensure their insertion, and to promote the completeness of our Mining Intelligence.

BRITISH MINES.

LEADHILLS.—W. H. Paull, November 18: Brown's Vein. In the 160 fathom level driving north of Jeffrey's shaft the vein is 4 feet wide, containing a strong mixture of spar, but mineral to value. In same level going south of Wilson's shaft the vein is 4½ feet wide, composed chiefly of stone and spar. The stope over this level south of Jeffrey's shaft is producing 20 cwts. of ore per fathom. The stope over drift above this level south of Wilson's shaft will yield 90 cwts. of ore per fathom. No. 4 stope over the 145 fathom level north of Jeffrey's shaft is on a vein 4 feet wide, producing 30 cwts. of ore per fathom. No. 1 stope above the 115 fathom level north of Jeffrey's shaft, 20 cwts. of ore per fathom. No. 2 stope over same level north of ditto is yielding 40 cwts. of ore per fathom. In the 100 fathom level driving south of Wilson's shaft the vein is 5 feet wide, composed chiefly of stone and strings of spar, with a little water oozing from the forebreast. The stope over drift above the 100 south of Wilson's shaft now yields 25 cwts. of ore per fathom. Driving of the 85 fathom level south of Wilson's shaft has been resumed on vein 4 feet wide, which is soft and unproductive. The two stopes over this level south of Wilson's shaft are producing on an average 30 cwts. of ore per fathom. In the stope over the 70 fathom level south of Wilson's shaft the vein is 9 feet wide, yielding 65 cwts. of ore per fathom. In stope over the 50 fathom level south of flat rod shaft the vein will produce 25 cwts. of ore per fathom. The vein in stope below the 35 fathom level south of same shaft is worth 30 cwts. of ore per fathom.—Raik and highwork veins. The ground in crosscut going eastwards at the 100 fathom level continues much the same as of late, showing a little spar and occasionally spots of ore. The portion of Raik vein carried in driving the 100 south of crosscut is 4 feet wide, strongly mixed with spar, yielding stones of ore at times. In the same level driving north west of crosscut the vein has improved, and now yields 35 cwts. of ore per fathom.—Sarrowcole vein. The rise over Gripp's adit level south of Georges Roust vein has been suspended for the present, and the men are put to drive northwards (at Gripp's adit level) on Georges Roust vein, starting from the junction of said veins. The vein here now contains a strong mixture of kindly spar spotted with lead ore. Surface operations are being pushed forward regularly.

WHEAL METAL AND FLOW.—The managing director has returned from the mines, and reports that the new arrangements for working the Flow, which include the laying of 1200 feet of iron pipe, the excavation of a reservoir, fixing about 500 feet of launders, building a tool and shelter house, &c., are now completed and in operation, and that some small sales of tin have already been made from the surface works. The pumping engine was started on the 16th inst., and good progress is being made in unwatering the mine as a preliminary to the proposed explorations in the virgin ground between Watson's and Cook's shafts. The directors have acquired, as a going concern, an adjoining mine hitherto worked by the New Fortune syndicate, payment for the same having been made entirely in shares of this company.

WHEAL FRIENDLY.—Charles Cole, November 16: I beg to inform you that I set the men to sink the engine shaft 5 fathoms, if the water will permit, for £14 per fathom. The shaft is now sunk 4 fathoms 2 feet below the 10 fathom level.

COLONIAL, INDIAN, AND FOREIGN MINES.

ELEPHANT'S KLOOF.—Reporting on work done on this company's property, Mr. Thomas Andrews writes from Belfast Hill, October 25, as follows:—I have recovered about 700 tons rich tailings from the river side, and placed them in a place of safety above high water mark. I am having assays of these tailings made, and anticipate they will average 2 ounces per ton. A chance assay I had made some time ago gave 3 ounces 7 dwts. per ton. I have made a drive on the west of Trichard's Luck, and connected the workings with the surface on that side. I have cut the reef, and it pans well. On the Belfast Extension I have traced the reef, and found rich gold. It looks very promising indeed here, and I am still opening up the ground. A lot of prospecting has been done on the Belfast reef, and is still being carried on.

GRAVEL GOLD.—W. St. D. Griffith, October 21: Run No. 12 continued. Hydraulicking was commenced on the Rica bank during the night without any interruption up to October 1, on which day we started cleaning down the mine, and on the 3rd instant we took out 112·75 ounces of gold from the sluice. The water supply has been very short this run, and the gravel somewhat harder; this accounts for the poor return. The ditches and syphons are all in good order and giving no trouble. Run No. 13 will be on a new opening called "La Mentira."

HAWK'S VIEW.—Extracts from reports received from the managing director, dated September 21 and October 16: You will note the highly satisfactory lateral extension of the Missing Link reef to 6 feet, and the proved continuation of the gold bearing reef on 1059, your northernmost block. The fine stone being raised on the Wealth of Nations is a good augury for your property, as showing what I have from the first been convinced of the substantial permanency of the lode. You have a mine increasing in value daily, and so far as developments prove, without an acre of unprofitable ground. —Lease 1642. From the 115 feet level have driven north on course of reef 12 feet; reef formation now 6 feet thick, carrying fine gold throughout.—Lease 1039. Have sunk this shaft a further depth of 5 feet, making a total from Brace 94 feet.

HANNAN'S NAPIER.—The directors of the above company have received from Mr. R. Gibson, M.E., the following report of work done for the fortnight ending October 12:—C shaft has attained a depth of 24 feet from the surface through fair working country, I have two shifts of men at work here, and will push it down to 80 feet as quickly as possible.—B shaft. We have been engaged cutting down this shaft, putting in ladder way, and securing it with timber. I have started to sink, the total depth now being 66 feet. I intend to crosscut at 80 feet to connect with C shaft, and hope to meet with a payable body of stone. We have just touched a small gold-bearing quartz vein in the bottom of the shaft 3 inches in width. In itself it is too small to be considered of any value. These veins are common in the Hannan's district, and are merely indicators or feeders to the larger formations. I intend to start on shaft A, cut it down, and put it in working to connect with B and C as soon as I possibly can. At present it it a most difficult matter to procure miners. I have sent, however, for some, and expect them to arrive in the course of a week or ten days. The surface workings are completed, and work generally on the mine is progessing satisfactorily.

ROBINSON DEEP.—The following is an extract from the manager's report, dated October 15: No. 1 shaft has been sunk 28 feet the last two weeks, making a total depth of 1153 feet from collar set, and timbered down to a depth of 1142 feet from surface set. No. 2 shaft has been sunk 36 feet, the last two weeks, making a total depth of 1265 feet from collar set, and timbered down to a depth of 1248 feet from surface set.

VAN RYN.—From the report on operations for month ending September 30; The Mines. General manager reports. Mine No. 4. New main shaft sinking, July 42½ fee, August 62 feet, September 35 feet. New main shaft rising, July 11 feet, August 86½ feet, September 72 feet. Old main shaft sinking, August 15½ feet, September 32½ feet. Driving 2nd level, August 9½ feet, September 4½ feet. Driving 3rd level, July 54½ feet, August 7½ feet. Driving 4th level, July 143½ feet, August 200 feet, September 185½ feet. Rising 3rd to 2nd level, August 86 feet. Rising 4th to 3rd level, July 13 feet. Sinking 2nd to 3rd level, July 28 feet. Drives 1st level on leader, July 58 feet. Crosscuts south, 1st level, July 20 feet, September 13 feet. Crosscuts south, 4th level, July 22 feet. Opening stopes, July 27½ feet. Sinking 2c east winze, September 15½ feet. Total, July 423 feet, August 467 feet, September 358 feet.—Mine No. 8. Driving 1st level, July 54½ feet, August 119 feet, September 106 feet. Driving 2nd level, July 205¾ feet, August 88½ feet, September 122½ feet. Sinking 1st to 2nd level, July 34¼ feet, August 116 feet. Crosscut (1st level), September 14 feet. Rising 1st level to surface, July 101 feet. Rising 1A east winze, September 34 feet. Rising 1A west winze, September 23 feet. Total, July 395½ feet, August 323½ feet, September 299½ feet. Equal total for month, July 815½ feet, August 790½ feet, September 657½ feet.—Ore developed, Mine No. 4. 1st level, September 2160 tons. 2nd level, September 2720 tons. 3rd level, July 1280 tons. 4th level. July 1200 tons, August 2000 tons, September 2500 tons.—Mine No. 8. 1st level, July 1200 tons, August 2140 tons. 2nd level, July 3000 tons, August 1800 tons. Total, July 6680 tons, August 5940 tons, September 7380 tons.—Ore in sight. Mine No. 4. 1st level, July 7849 tons, August 7607 tons, September 7384 tons. 2nd level, July 6642 tons, August 6564 tons, September 6510 tons. 3rd level, July 24,948 tons, August 22,502 tons, September 20,731 tons. 4th level, July 2750 tons, August 4600 tons, September 6819 tons. Total, July 42,189 tons, August 41,273 tons, September 41,444 tons.—Mine No. 8. 1st level, July 22,914 tons, August 23,054 tons, September 22,944 tons. 2nd level, July 4700 tons, August 6500 tons, September 9220 tons. Total, July 27,614 tons, August 29,554 tons, September 32,164 tons. Total, July 69,803 tons, August 70,827 tons, August 73,608 tons.—Mine No. 4. New main shaft. It was decided to cut out a station at the 1st level, which took half the month. The shaft was sunk 35 feet, making a total depth of 165 feet. Rise from 3rd level to 2nd level on line of this shaft was up 72 feet. Old main shaft was sunk 72 feet, and is down 78 feet below the 4th level. Total depth of shaft on incline 608 feet. 4th level drives were extended 185½ feet, at a cost of 56s. 1d. per foot. Total length, 769 feet.—Winzes 3rd to 4th level. 2A east winze was sunk 15½ feet, at a cost of 58s. 11d. per foot. Total depth, 48 feet. Shall finish by a rise. I recommend sinking so as to facilitate work on 4th level and new main shaft. The reef in this winze is good, being 17 inches wide, and assaying 67¾ dwts.—Stoping. 2329½ tons were stoped, and 2018 tons milled. Scarcity of labour through sickness and other causes has told against us this month. We had, in consequence, to draw upon our reserves. The price of native labour has risen rapidly.—Mine No. 8, main shaft. Sump was cut out at 2nd level, and everything was got ready for sinking to 3rd level in October. 1st level drives were extended eastward 106 feet at a cost per foot of 42s. 9d. Total length of east drive from main shaft 1250 feet. Reef is 4 inches wide, and assays 77 dwts. The footwall leader is 3 inches wide and assays 48 dwts. For some considerable distance the footwall leader has proved to be worth taking in the stopes. 2nd level drives were extended 122½ feet at a cost per foot of 56s. 4d. Total length of this level 502 feet. In the early part of the month this level was not panning well, but got into good pay rock during the latter half. The west drive is now in high grade ore for 3 inch reef.—Rising 2nd to 1st level. The winzes 1A east and 1A west were both connected during the month, thus affording the necessary ventilation to enable us to go on sinking the main shaft. Cost per foot 43s. 11d.—Stoping. 2270 tons were stoped and 2045 tons milled.—Stamp mill. 50 stamps ran, July 27·3 days, August 27·19 days, September 25·1 days. Ore crushed July 4488·6 tons, August 4465· tons, September 4063 tons. Crushed per stamp per day of 24 hours, July 3·31 tons, August 3·21 tons, September 3·24. Gold won (plates and concentrates), July 2068¼ ounces, August 1995 ounces, September 2132 ounces. Average yield of gold from plates and concentrates, July 9·20 per ton, August 8·93 per ton, September 10·49 per ton.—Cyanide works. Tonnage treated, July 5055, August 4715, September 4800. Cost per ton, July 4s. 1d., August 4s. 10d., September 4s. 11½d. Actual extraction, July 70·5 per cent., August 77 per cent., September 68 per cent. Assay value, July 3 dwts. 11 grains, August 3 dwts. 15 grains, September 3 dwts. 11½ grains.—New works. Battery and mortar-box piles have been placed and ready for mortar-boxes. Work is well advanced.—Buildings. New quarters for 24 Europeans covered in. New shops for fitters, smiths, and carpenters in hand. Foundations nearly finished. Profit for month (plates and concentrates), July £1127 15s. 5d., August £742 6s. 9d., September £2153 17s. 5d. Estimated profit (cyanide works), July £1002 18s. 9d., August £1144 19s. 5d., September £935 6s. 8d. Total profit for month, July £2130 14s. 2d., August £1887 6s. 2d., September £3089 4s. 1d.

BROKEN HILL PROPRIETARY.—The manager reports that for the week ending November 21, 6097 tons of ore were treated, yielding 483 tons of lead, containing 140,655 ounces silver, also 163 tons treated by amalgamating and leaching plants, producing 9932 ounces silver. The price of the shares in Melbourne is £2 8s.

THE accuracy of the fusing point of gold as given in the text-books has been the subject of an enquiry by M. Le Chatelier, who however, has come to the conclusion that until more precise determinations can be made with a gas thermometer, the old figure of 1045° Centrigade should be accepted.

EXPERIMENTS made in France with a steam turbine of the Laval type have proved that it does not consume more steam for the work done than steam engines with pistons. A full account of the experiments was recently given to the Société des Ingenieurs Civils de France by M. Compère.

FUEL CONSUMPTION ON RUSSIAN RAILWAYS.—The movement of coal over the railways of Russia last year amounted to 3,292,695 tons, or nearly 500,000 tons more than in 1893. The quantity of coal consumed by Russian railways last year was 976,252 tons. The Vladicaucasian Railway now uses naphtha for its locomotives, while the South-Eastern, the Moscow and Kourske, and the Voronege use the residue of petroleum. The consumption of coal by Russian railways was reduced by this means last year to the extent of 210,000 tons.

ALMADA AND TIRITO.—Report for the month ending October 26: Dios Padre. The 250 feet level north was extended 13 feet during the month by three men. The lode is poor, composed of quartz with porphyry intermixed.—Guadalupe, The 150 feet level driving south of No. 1 shaft was extended 35·2 feet by seven men, the total length from the crosscut being 53·9 feet, all of which is through a paying lode, and the present forebreast will yield green ore worth $80 per fathom. Owing to the large amount of water we have had to contend with, very little has been done in the 150 north of No. 1 shaft. The water has, however, decreased, and we have commenced to drive with all speed in order to effect a communication between the two shafts. The total length from the crosscut is 33·7 feet, and the lode at present is without ore. 23·7 feet were driven by six men in the 150 feet level south of No. 2 shaft. The lode contains a little ore, but is slightly quartzite, with a considerable amount of intrusive porphry. The total length from the shaft is 42·5 feet. We are opening up a massive lode of very hard quartzite in the 150 north of No. 2 shaft, yielding at present black ore, value about $60 per fathom. This was only extended 18·6 feet during the month by six men. The lode in the tunnel driving south of Ibarras cutting has improved slightly in appearance. Five men drove 22·3 feet during the month.—Stopes. We are getting some good grade ore from above the tunnel around San Jose shaft, and the stopes north of Balvanera shaft continue to yield paying quantities of ore.—(Signed) John Nute.

AUSTRALIAN BROKEN HILL CONSOLS.—The mining manager reports by mail for the fortnight ended October 10 as follows: Block 96. 280 level east prospecting drive. No. 4 rise eastern stopes driven 25 feet. Stoping continued without any change in gangue. No. 2 rise near shaft driven 12 feet, total 93 feet. Lode rising very fast, consisting of several small veins of iron. A stope has been started to the eastwards, the lode being 2 feet wide, and the carbonate of iron carrying cobaltite. No. 3 rise 280 level east driven 6 feet, total 13 feet. The lode here is very small, carrying carbonate of iron showing galena, the diorite being very hard. Incline sunk 4 feet, 595 feet 6 inches. The lode is dipping faster, about 12 inches wide, carrying a vein of carbonate of iron, from which we obtained some native silver in solid form, being accompanied with ruby silver, fahlerz, cobaltite, and galena, the prospects being encouraging, showing that we are still on the right track of the rich ore going downwards. No. 5 level east driven 10 feet 6 inches, total 206 feet 6 inches. The lode is smaller, and turning very fast to the left.—Diamond drill. Having put in two more bores in No. 1 rise 280 level east the drill was removed to No. 1 winze 280 level west, where three bores have been put in towards the incline, but without any results.—Note. The quantity of rock mined during the fortnight was 2762 cubic feet.

BAYLEY'S REWARD No. 1 SOUTH.—Mining report dated Coolgardie September 27: Report of work, &c., for week ending September 27: Main shaft, 170 feet level. No work has been done here for the week, all hands being employed developing the 120 feet level and drives.—120 feet level. North drive from crosscut extended 10 feet, total length 31 feet; width of reef 2 feet. The reef here has been much thrown about, but is still apparently going strong in face; stone about 1 ounce value per ton. South stope towards shaft looking well, and showing fine gold at intervals; reef about 20 inches to 2 feet wide, payable.—North stope from crosscut. This stope was only started on Thursday, 26th inst., and on Friday, we came on to spendid stone, all of which we immediately sent to the battery. I expect this stope to yield rich stone right up to the level above (90 feet). We have started a winze 33 feet north of shaft on this block of stone at this level, and mean to continue the same to the level beneath; gold now showing in bottom of winze. Winze south of shaft has been sunk 3 feet; no gold showing.—Battery. With five head we have crushed for ourselves 62 tons of stone for a result of 94 ounces retorted gold equal to about 1½ ounces per ton. With the other five head we are well on with the 200 ton sample for Wright of the Star of Coolgardie,—(Signed) Tom V. Browne, acting manager.

BAYLEY'S REWARD No. 1 SOUTH.—The manager writes under date September 27, as follows:—I hope this fortnight's crushing will meet with your approval. We ran continually two shifts out of the 24 hours each day five head, and 62 tons was the utmost we could crush. However, the result—94 ounces—was good, and equal to about 1½ ounce per ton. I am well into the 200 tons sample now for Wright, and he paid last week £120 on account. The mine is looking very well, and I hope to keep these returns going. On Thursday we had some beautiful stone from the north stopes from crosscut 120 feet level.

BAYLEY'S REWARD.—Mining report, dated Coolgardie September 27: Report of work done for week ending September 27. Main shaft, Sylvester. 380 feet level driven further south for week 9 feet, total from crosscut 204 feet. A slight stream of water is coming from face, which is again more mineralised and promising-looking, the two walls having widened again to about 2 feet.—North drive (on the reef). We have just commenced the last two days to work here, and have driven 4 feet, taking half the reef on the hanging-wall side with us. The stone is extremely hard but highly mineralised, and we expect daily to come on to gold.—100 feet level. South stope reef 4 feet wide, carrying about 15 dwts. of gold per ton, except when occasionally we strike rich patches of gold. No other workings at present in this level.—Gordon shaft. Back of 50 feet level north stope. This stope is being cleaned up and timbered, preparatory to breaking quartz.—Begelhole shaft. North drive at 30 feet level looking exceedingly well in face, width of the reef about 10 feet or more, the footwall making continual alterations in its course it is difficult to measure accurately. We have had good gold in this face all through the week, and it promises well to continue. The reef cut out at the beginning of last week, and then made again past the fault, so it is very probable this make of quartz will continue some distance further.—Everard workings. 60 feet level, air shaft, north stope. A rise has been put up here during the week to connect with 40 feet workings to facilitate mullocking up the stopes; fine gold visible in the face. This quartz is being trucked direct to the battery.—Machinery. All machinery working well and satisfactorily.—Battery. Crushed for fortnight 200 tons for 201 ounces gold.—Buildings. The oil engine is now complete, and thoroughly dust proof; also covered way between this house and battery has been erected to cover in belting while working, the rain causing it to shrink and then tear.—(Signed) Tom V. Browne, acting-manager.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for the week ending October 9: Blackwood shaft, 300 level. West crosscut from plat extended 6 feet, total length 53 feet; face unchanged. 200 level east crosscut in south drive down No. 1 winze lengthened 15 feet, total 42 feet; face still showing fair grade sulphide ore. We mined in driving 32 tons, averaging 21 per cent. lead, 17 ounces silver per ton, and 23 per cent. zinc. West crosscut down No. 2 winze in western extension advanced 2 feet, total 82 feet, and connection completed with No. 3 winze. We mined 6 tons of sulphides, assaying 19 per cent, lead, 13 ounces silver, and 35 per cent. zinc. No. 3 winze in long crosscut sunk 6 feet, total depth 72 feet, with no change. North drive off long crosscut driven 9 feet, total length 19 feet, with good grade sulphide showing. We broke 22 tons sulphides, averaging 24 per cent. lead, 16 ounces silver, and 24 per cent. zinc in driving.—Howell shaft, 300 level. West crosscut advanced 4 feet, total from plat 134 feet; face unchanged. In east crosscut work has been carried on around bottom of 270 winze in fair lead sulphides. In doing this we mined 41 tons sulphide ore averaging 32 per cent. lead, 10 ounces silver, and 19 per cent. zinc.,—Marsh shaft, 2nd level. From the various working faces down winze stopes we broke 11 tons carbonate ore, averaging 27 per cent. lead and 45 ounces silver per ton. The prospecting drives southwards from these stopes was lengthened 5 feet, total 32 feet, along footwall side of lode, but have discovered nothing of importance so far.—Junction 300 level. Uprise risen 5 feet, total height 90 feet, and connection made with Marsh's workings.—Surface. Have given new air-compressing engine a trial run, and it worked very smoothly. I expect all works in connection with this plant to be completed in three or four days.—Ore shipments. We forwarded 125 tons 12 cwts. 2 qrs. (gross) sulphide ore to block 14 mine during week, but cannot arrive at contents at present, as assays have not been completed and agreed yet.—Assays for the week. Carbonates, lead from 10 to 40 per cent., and silver 29 to 65·2 ounces per ton; sulphides, lead from 18·5 to 30 per cent., zinc from 17·5 to 34·6 per cent., and silver from 8·3 to 19·6 ounces per ton.

BONNIE DUNDEE.—Mine manager's report for fortnight ending October 5: No. 3 underlie shaft on Victory reef. I am pleased to report that we have again started to sink the underlie. We have put in the curve and about 160 feet skids for next skip road. No. 1 north level extended 13 feet, total length 170 feet. Reef improved, 12 inches fair looking stone. No. 1 winze sunk 14 feet, total depth 54 feet 8 inches of mineral stone in face. Stopes for 100 feet will average 15 inches fair mineral stone.—No. 1 south level. Stopes will average 10 inches for 25 feet. No. 1 winze sunk 8 feet on a reef 18 inches thick, with water making through the quartz.—Stone raised. Have sent to the mine 190 tons, of which 140 were raised during the last fortnight.—Crushing. October 7, 190 tons for 279 ounces.

BRILLIANT BLOCK.—Mine manager's report for fortnight ending October 2:—No. 8 level platt and levels. Crosscut extended 12 feet, total length 28 feet. East level driven 23 feet, reef 3 feet, 10 dwts. West level 18 feet, reef 1 foot, 10 dwts.—No. 7 level east. Driven 14 feet, total length 74 feet, reef 5 feet, 10 to 15 dwts.; stopes over reef 3 to 12 feet, 10 to 15 dwts.—No. 6 level west. Driven 25 feet, total length 332 feet, reef on face 15 inches, 10 dwts.; 2 stopes over reef 2 feet, 10 to 15 dwts.—No. 6 level east. Stopes give 2 to 6 feet, of 15 to 25 dwts.—No. 5 level west. Driven 8 feet, total length 449 feet. No reef at present.—No. 4 level west. 2 stopes reef 2 feet, 10 to 14 dwts.—No. 4 level east. Stopes on flat reef 6 inches to 2 feet, of 15 to 20 dwts. stone.—The new mill. Outside concrete wall built up 8 feet under hopper. Brick wall under centre of main hoppers has been completed. Excavations for stone breaker pit will be completed before rains set in if possible.

CARATAL.—The following particulars of the recent crushings have been received from the manager at the mines: Bullion despatched August 10. Tons crushed 184, gold produced 299 ounces 18 dwts., company's rent for crushing 126 ounces.—Bullion despatched September 22. Tons crushed 416, gold produced 494 ounces 12 dwts., company's rent for crushing 220 ounces 3 dwts., 40 stamps, only 19 days complete run of 35 owing to repairs and want of water. There are 35 stamps crushing this run. All things in better order. Average quantity of ore per 24 hours 40 tons. Owing to want of men the other stamps have not yet been put in order. Ore waiting for treatment will keep other 10 running.

CRESCENT.—Fortnightly report of Mr. T. G. Davey, superintendent, dated October 11: Crescent Mine. South tunnel towards main shoot driven 19 feet, total 230 feet. There is a favourable change in the nature of the rock, and better progress is now being made. The main lode should be reached in about a fortnight. Rise at back of drive north of shallow tunnel towards north shoot advanced 30 feet, total 55 feet. Lode consisting of almost solid quartz, large and well defined, with colours of gold. The rise is several feet east of surface cutting, so that we shall probably have to crosscut west for auriferous shoot. Richardson's old tunnel advanced 28 feet, total 240 feet. Penetrating to western side of hill. Rise at back of drive south of Richardson's old tunnel on rich vein advanced 8 feet. The auriferous vein is 4 feet wide, averaging about 10 dwts. per ton, but there is a very thin seam of ferruginous quartz and slate in this vein, which is highly auriferous, and is valued at 10 ounces of gold per ton. Unfortunately this seam is only about 1 inch thick. We hope to open up a large body of rich ore in this rise. Crosscut west of drive south of Richardson's old tunnel extended 15 feet, total 40 feet. We have here passed through a vein of pay ore 1 foot wide, and hope soon to meet with the main ore body.—Orlando Mine. Deep tunnel advanced 11 feet, total 91 feet. Ground has improved, and we now expect to make better progress.—Victory Mine. Tunnel towards Neill's rich shoot extended 37 feet, total 108 feet. We should reach the lode in about a week.

DIXIE GOLD.—The mining reporter of the *Coolgardie Review*, October 12, states:—The manager is opening up one of the finest gold chutes I have seen. The stone is impregnated with coarse and fine gold, the average of the whole being, I should say, between 8 ounces and 9 ounces per ton.—The Perth *Daily News* of October 16 says:—The Dixie Mine at Black Flag is at present producing some very rich stone. Coarse and fine gold shows freely in the outcrop and down to the 45 feet level. No diminution has occurred.

FRONTINO AND BOLIVIA.—Mr. Eustice's reports on the mines: La Salada, September 23. La Salada new mill. This will be at work I hope in about 15 days. As I have already mentioned, it is practically finished, and we are busy in getting the launders ready to bring the water from the pumping wheel at La Salada shaft to the tanks, and the settling pits below the mill to save the sands in the event of some future treatment. The workmen are now on the installation of the electric light, and this should be finished about the end of this week.—The mines. Silencio. The water has so fallen back that we could not keep the shaft dry, and little or nothing has been done in the sinking. Until the rains come and the water from Tias is here, nothing more can be expected. In the first fortnight of the month the work in the shaft went on speedily, but from the middle of the month all work had to be stopped. I cannot report of anything below No. 6 level, except that there has been a change in the ground south. The No. 5 level is still in poor rock; the vein is about 6 to 9 inches wide, and carries some pyrites. In the Bolivia crosscut there has been some trouble in the timbering, and the progress is slow; but after some few days we hope to get into some firm ground. The stopes are producing some good mineral, and the lode No. 3 south is still widening, and is now 6 feet thick, but crossed with some small veins of granite.—La Salada. I could not get below the No. 2 crosscut, and am unable to report anything in the shaft. The "Manto" in the south end is large, and the "diarios" from the mills are good. In the advance from the No. 4 level south the mineral is becoming larger; the ore is better, but until there is more water, nothing more can be done.—Cordoba. In this mine we have been working below the Rosario section, but the lode has become small. In the crosscut there has been driven two levels, and I now think that we are on the Cordoba lode. Although small, it is of the same character as the Cordoba lode above, and I have set contracts to drive as soon as possible to south end.—Marmajito. The lode in the east end has turned slightly, and appears to turn towards the general direction of the lode. The mineral is enclosed in a quartzite rock, which will subsequently form into the matrix, and be a portion of the lode itself.—General. The new hoist for La Salada is being brought up from Zaragoza slowly, and at once, after the Salada mill is finished, all hands will be put on the erection of this. I shall send you a drawing of the arrangement which I mentioned for pumping with the hoisting engines; but with the Tias water it will not be wanted for some little time.—La Salada, October 7: The mines. No change of importance has occurred in any of the mines in the past fortnight. The water which had accumulated in the shaft was soon pumped out when the Tias water had reached the pumping wheels, and the sinking was resumed at once after the débris had been cleared.—El Silencio. The ground in the shaft is still favourable for working, and but for the accumulation of water as mentioned the sinking for the month would have been good. As it is, another 50 feet will doubtless be reached, and the crosscut started for the levels No. 8 north and south, in this year. No. 7 levels were not reported in my last, they too being at the time under water. At present the lode north is very much changed by the same crosscourse, which was met with in No. 6 level, and the result is that the lode has been pinched and is harder, besides much mixed with soft granite. Without doubt much the same nature of ground must be driven through as in the level above, before the lode becomes settled again. In this level south the lode is smaller, but the ore is good and very regular. The winze below No. 6, and further south than the drivage in No. 7, is in a large rich lode; there is reason, therefore, to expect much the same thing as this level advances. In No. 6 south the drive has reached the crossing, which was met with in No. 5 level vertically above this point, and the effect has been to disturb the mineral and split it into branches. This doubtless will soon form itself again after a few feet advance. In No. 5 level the lode has improved. In No. 4 south the lode is soft and easily worked, producing mineral of fair quality. No. 3 south not quite as large, or apparently so impregnated with pyrites as it has been in the past few months. In the Bolivia crosscut, after timbering was finished, the ground became somewhat firmer, and now is much harder; still, the advances made are good, and in about two or three months I hope to have intersected the Bolivia lode, should it (the lode) not have changed its inclination in depth. By recent survey the present end is about 80 feet from the point expected to intersect the lode. The drivages monthly have averaged about 30 feet. The stopes throughout have given better yields up to the present, therefore, balancing the falling back of the quality of mineral from the several drivages, rises and winzes, and, on the whole, the produce from the mills at Maria Dama shows an increase on the past month at the same date. The adit level south is still in an excessively hard and compact granite.—La Salada. Since the shaft has been drained a crosscut has been started from the extreme bottom, which hereafter will be known as the No. 3 crosscut. The object of this is to cut the main lode, continue on and cut the Manto (which if it has not already formed a junction with the main lode must be very close to it) and to start levels north and south. This is an alteration of the plans first laid out, it being intended to first cut the lode in the shaft, continue on its (the lode) dip some feet, and commence drivages north and south, but on second consideration it was thought best not to have high stopes, especially on the Manto, in order to avoid as much as possible the handling and rehandling of the mineral. On the other hand, if the lode should have taken a lesser inclination (which there is reason to surmise, not having yet cut it in the shaft as was expected) the next levels will be driven some feet deeper, and thence continue the sinking to make levels at depths of 50 feet between as it was at first intended, 50 feet being considered as sufficient height of stope in a lode of such great inclination as are those of the mines here generally. In the levels on the Manto north and south of No. 2 crosscut the lode is excellent, and the main lode on the same level has much improved in the last few feet of drivage. I find very little change in the levels or stopes above; more miners are put in the several drivages to be prepared for the new mill, which will undoubtedly crush almost double the quantity of mineral that the old mills are crushing. If anything of importance is met with in No. 3 crosscut there will be an immense amount of stoping ground laid open which can be mined cheaply, and which will give an opportunity to recover some of the drawbacks which we have suffered from the beginning of the year to the present time.—Cordoba. The Rosario section of this mine has become so poor, that with expenses of exploration in No. 8 crosscut, it was thought best to temporarily suspend all extraction in this part of the mine. The levels north and south in the No. 3 crosscut are slightly improving, especially the latter, and in a few more feet of drivage should be in a good lode. At present the mill is crushing sands, and the result is very fair.—Tigrito. Has been doing well, and the lode has the appearance of continuing forward. Its size is about 3½ feet, 2 feet of which is in a good solid compact quartz, the rest is mixed with wall stuff, but carries gold. This is in the west level, the east level is much the same. The stopes above the west level are in good ore, but can only be worked sparingly yet, for want of better air. However, the timbering of the No 5 level above is hurried on to meet the rises put up above the No. 6, which, when reached, will thoroughly ventilate the mine. As the drivage west advances, the water increases slightly, probably the drainage of the old mine, and as further advance is made in this direction the water will likely increase, as the Tigrito flats, which are a marsh even in the dry season must be drained in this level, in which case such water will be of considerable help to the milling department.—Marmajito. The turn in the lode, mentioned in previous reports, still keeps in the same direction, but I am of opinion that before long it will follow the general direction of the lode. It (the lode) is of good quality, and the yields from the mills are good. With the help of a part of the Tias water, which goes on to the Marmajito and Marmajon after leaving Cordoba mill, there has been an increase in the crushing, and at this date the produce from the beginning of the mill month predicts a good month throughout from this mine. The drivage of the crosscut in the Playa Valley is resumed. A few explorations are started here and there, but it is not likely that anything except on a small scale will be done until next year, when it is hoped that they can be carried on without detriment or prejudice to the other establishments. The Marmajon mill is at work on the Marmajito mineral.—General. The mines throughout are yielding well, and the current month is sure to be a fairly good one. The rainy season seems to have begun, although the rains have not altogether set in as yet, still there is sufficient water to work all the stamps, the Tias water having added very effectually to the establishments all round. Mineral will be sent to La Salada new mill in a few days time, and I hope to start milling about the end of next week. Everything finished except some troughs to be put, mercury traps and riffle boxes, which will be done soon. Altogether affairs have a more cheerful aspect than there has been for some time past, and I hope that even with the hindrances, delays, and the drought, the half-year will be a fairly good and satisfactory one.—Geo. W. Eustice.

GEM OF CUE.—Manager's report for the month of September. Work has principally been confined to vertical shaft A and underlie shaft E. Finding the ground in A shaft in an unsafe condition, have had it secured by sets of timber for 40 feet. This has caused some delay in sinking operations during the month; present depth of shaft is 74 feet; country hard shooting ground requiring no further timber. I will now make good headway with this shaft, and at a further depth of 40 feet will probably strike both lode and water. In shaft E north lode (cross section) have sunk a further distance on the underlay 10 feet, and stripped surface at open cut an extra 10 feet. Lode here; latter varies from 1 to 2 feet, and shows every sign of permanence, gold being freely visible. I have also put in open cut exposing the lode between G and H shafts for object of gaining information as to value of stone at this portion of property. Ore is quite equal to any previously crushed from mine, showing free gold, and testing by free dollying process, so far as opened upon good payable results. Size of lode 1½ to 2 feet. General work is proceeding in a satisfactory manner. Hope to be enabled to start main working shaft next week. The board have been advised by cable that preparations are now being made for further crushing.

GOLDEN HORSESHOE.—Mr. F. Bowes-Scott's fortnightly report ending October 12: No. 1 shaft deepened 6 feet 9 inches, total 45 feet 6 inches below the chamber, or 125 feet 6 inches from the surface. The depth sunk is not in accordance with that which should have been sunk. The scarcity of good miners makes it impossible, in this hard ground, to get a proper amount of work out of the men.—No. 2 shaft. Drive north-west has been extended 6 feet, total 37 feet. The lode stuff is of a mullocky nature, and the prospects not nearly as good as heretofore. The condition of the lode, however, may alter for the better at any time.

YERRAKONDA GOLD.—Fortnightly report of Captain Scantlebury, mine agent, dated October: Beresford's shaft. This shaft has been sunk 11 feet, now 145 feet below the 300 feet level. The lode is 5 feet wide, composed of quartz, iron pyrites, and country rock. There is a leader of quartz against the hanging-wall 1 foot 6 inches wide, assaying 2 dwts. 15 grains of gold per ton. 200 feet level north. We resumed the driving of this end on the 21st inst., since when 17 feet 6 inches has been advanced, making total distance of 413 feet from shaft. The lode is 2 feet wide, composed of quartz, a little pyrites, and mica schist. The quartz assays 3 dwts. of gold to the ton. South shaft has been sunk 6 inches, now 179 feet 6 inches from surface. The quartz is 1 foot wide, and worth 4½ dwts. of gold to the ton. We have been hitting a standing lift and taking up water. The rock is very hard for labour, and operations are now being made to sink the shaft with rock drills. Prospect shaft south has been sunk 4 feet 6 inches, now 89 feet from surface. The lode is 4 feet wide, composed of quartz and worth 2 dwts. of gold to the ton.—Prospecting on Lakina-bhalli block. Two trial pits are being sunk on outcrops of quartz that shows a little gold in the pan.—Health. This is fairly satisfactory, only a few cases of fever.

HARRIETVILLE.—Mine report of Mr. T. G. Davey, superintendent, dated October 11: Since operations were suspended in the underground workings a man has been employed as watchman on the mine to look after the machinery and tools. I also instructed him to do as much prospecting on the surface as he could. He has from time to time discovered a number of auriferous veins which, as being developed, proved to be of little importance. On the 4th instant, however, he discovered a rich vein of quartz on the Tiddledee boss. This has since been developed for a length of 50 feet, and is found to be 2 feet in width, and to average about 2 ounces of gold per ton. The actual length of the shoot has not yet been ascertained, as the lode continues to be equally auriferous, and to maintain its size at both the north and south ends of the present workings. A trial crushing of 25 tons has already been taken out, and appearances at the mill more than justify my estimate of 2 ounces per ton. This shoot is 250 feet east of the old Tiddledee, and although a number of surface cuttings have been made in former days, above and below it, there was until now no suspicion of its existence. It is well-defined, and consists of almost solid quartz, and there seems no doubt that it will hold its own for some considerable depth. It can be easily reached from the deeper levels (F, E, and D), so that very little dead work will be necessary to develop it. I have paid the reward of £50 to the discoverer, and this has stimulated others to prospect on the company's leases. I have had three applications to-day for permission to prospect, and it is highly probable that other discoveries may soon be made.

HEIDELBERG GOLD MINES.—A letter has been received from the managing director, Mr. Webster, now at the mines at Heidelberg, in which he reports as follows: You will see from Captain Pascoe's report enclosed that this shaft (No. 4) is now sunk 15 feet from the surface. It is being sunk in the reef, which I am glad to say has a dip of fully 40° from the horizontal, and measures between the walls fully 3 feet wide. It is full of pebbles and is one of the finest looking reefs I have seen in any part of the country. Yesterday we panned several samples with most satisfactory results, and I estimate the yield to be fully 1 ounce per ton. I shall continue the sinking of No. 4 shaft with all possible despatch, and at a depth of 100 feet from surface will extend levels both east and west. I also hope in the course of a few days to commence another new shaft (No. 5) still further west. In this way I hope in the course of three or four months to be able to develop a large length of reef, which will yield several thousand tons of rich ore. I shall continue the driving of 150 feet level and connect the same with the three shafts. This will open up a large piece of ore ground, as in many places sunk through, the reef yields over 5 ounces of gold per ton.—The following is an extract from Captain Pascoe's report: I am pleased to report that No. 4 shaft on the western portion of the property is being sunk on a most promising looking reef full of fine looking pebbles, and measures at present depth fully 3 feet between walls, and pans most satisfactorily; in fact, it is the finest looking reef I have seen on this or any adjoining property, and am glad that you have decided to open up this part of the mine.

MILL'S DAY DAWN.—Mine manager's report for fortnight ending September 21: No. 10 level east, extended 16 feet, total length 76 feet. No. 10 level west extended 14 feet, total length 91 feet. No. 9 level east hanging-wall crosscut extended 10 feet, total 29 feet. Still in granite. Footwall level extended 23 feet, total from main level 113 feet 14 inches; heavy mineral stone. Footwall stopes, first stope averages 18 inches stone, and the rest 12 inches for mineral stone. Hanging-wall stopes 12 inches to 2 feet; medium stone. No. 8 level west hanging-wall stopes 2 feet fair quality. Footwall stopes 48 feet; very fair quality.—No. 6 level west. Bottom portion of footwall reef will average 2 feet in thickness. Air pipes are laid into stope at end of shaft winze road, where reef averages 18 inches medium quality. Stopes new shaft, 12 feet good stone.—No. 5 level west. In footwall stope the rise level has been extended 20 feet, total from top of rise 200 feet; reef 18 inches of heavy mineral stone.

MOSMAN GOLD.—Mine manager's report for fortnight ending September 28:—North Australian. The several stopes are yielding stone of rather better quality than usual. Reef 4 inches to 15 inches thick.—Peabody shaft. Sunk 20 feet. Total depth 348 feet. Formation 10 feet wide. Progress has been slower than it otherwise would have been.—Wyndham shaft. Sunk 8 feet. Total below 11 level flat 92 feet. The slide country is very bad for working.—12 level north. Extended 16 feet. Total length 482 feet. Reef 1 foot thick, of poor quality.—No. 6 level south. Winze sunk 28 feet. Total depth 58 feet. Reef 6 inches to 1 foot, fairly mineralised,—No. 8 level stopes. Reef varies up to 18 inches of (say) 1 ounce stone.—No. 10 level stopes. Reef 1 foot of (say) 1 ounce stone.

MOUNT LYELL.—Mine manager's report for the week ending October 3: Main crosscut, No. 3 tunnel. The face has been advanced 6 feet, total 295 feet. There is no perceptible change in the pyrites driven through.—South drive, No. 3 tunnel. This drive has been advanced 5 feet, making the total length 463 feet. Still driving in low grade copper pyrites.—Main crosscut, No. 4 tunnel. 5 feet have been driven, making the total length from the footwall of the pyrites 107 feet. The face is in solid pyrites.—North drive, No. 4 tunnel. The face has been driven 6 feet, total 215 feet. There is no change to note.—South drive, No. 4 tunnel. This drive has been driven 6 feet, total length 369 feet. Country passed through schist.—No. 5 tunnel. 5 feet have been driven, total 1113 feet. Still in solid pyrites, which though hard, break fairly well.—South drive, No. 5 tunnel. This has been driven 4 feet. Alongside the pyrites country schist, awkward for breaking.—Progress report for week ending October 4: Smelter site. Roof trusses over blast furnaces in place, carpenters at work on superstructure of ore bins. Pile driving for bin-approaches finished and framing of bin approaches in hand. Excavation for foundations for hot blast stoves completed and stone foundations in progress. Start excavation for continuation of blast furnace flue to hill flue. Main chimney, bricklaying on pedestal making good progress. Winch and haulage line for materials work along wall. Sawmill, machine shop, carpenters' shop, and full brick plant running full time. Yesterday's output of brick machine 16,000 bricks for eight hours. Excavation for crusher siding in progress. New kiln siding formed and ready for plate laying. Utilising present lowness of Queen river for removing the most obnoxious obstructions of fallen timber, causes of past floods over railway line. New storage house in progress for machinery and supplies. Weather fine and dry, no interruptions to work.

MOUNT MAGNET.—Extract from mine manager's report, dated October 4: At the present time there are six hands employed at the mine, two stoping on the quartz reef, which is now all 3 feet wide in the face and yielding fully 2 ounces per ton, two driving north on the auriferous dyke formation at about 50 feet down, and two others preparing windlass brace, &c., for commencing operations at water level in the deep shaft.

MYSORE REEFS (Kangundy).—Fortnightly report of Captain M. Scantlebury, mine agent, dated October 30: Underlie shaft. This shaft has been sunk 6 feet, now 24 feet 6 inches below the 425 feet level. The lode is 4 feet wide, 2 feet of which is quartz, assaying 3 dwts. 12 grains of gold to the ton. The heavy rains are letting down a great deal of water in the ancient workings, which is hindering the sinking. We have now gangs of men filling up the workings. 425 feet level north has been extended 13 feet, now 65 feet from shaft. The lode is 2 feet wide composed of quartz, mineral pyrites, and country rock, assaying 10 dwts. of gold to the ton. 425 feet level south has been extended 8 feet 9 inches, now 38 feet from shaft. The lode is 3 feet wide composed of quartz, mineral pyrites, and country rock, assaying 3 dwts. 20 grains of gold to the ton. Winze below 325 feet level has been sunk 6 feet 6 inches now 75 feet below the level. The quartz is 1 foot wide, assaying 2 ounces of gold to the ton.—Stope north of winze. The quartz is 1 foot wide, assaying 1 ounce 18 dwts. of gold to the ton.—Stope south of winze. The quartz is 1 foot wide, assaying 14 dwts. of gold to the ton. 325 feet level north has been extended 18 feet, now 302 feet from shaft. The quartz is 1 foot wide, assaying 15 dwts. of gold to the ton. This is communicated with the winze below the 260 feet level vertical shaft.—Stope in west of 325 feet level. The quartz is 9 inches wide, and worth 3 dwts. of gold to the ton. Vertical shaft has been sunk by hand about 2 feet 6 inches, now 275 feet from surface. The rock is fearfully hard and the water very quick, owing to the heavy rains we are having every night.—Stope in back of 260 feet level. The quartz is 1 foot 6 inches wide, assaying 6 dwts. of gold to the ton.—Prospecting western reef. The trial shaft south has been deepened 1 foot, now 21 feet from surface. The quartz is 1 foot wide, assaying 2 dwts. 14 grains of gold to the ton. We have been obliged to suspend this on account of the water. The trial shaft north has been sunk 12 feet 6 inches, now 49 feet 6 inches from surface. The quartz is 1 foot 6 inches wide, assaying 3 dwts. of gold to the ton. We have struck water in this shaft; if it increases much more we shall be obliged to suspend the sinking until monsoon is over.—Health. I regret to say that fever is again prevailing; several of the men are down.

NEW LONDON ESTATES. — Extract from manager's report dated November 4: I am pleased to say that I have at last some very encouraging news to report. During the past week I finished squaring down the shaft, and have thus exposed the vein more fully in the north end of the shaft. This 3 inch quartz vein has split here in kidney shape, on the west side the vein is about 1 inch wide, on the east about 2 inches, and divided by about 6 inches, showing every tendency, however, to come together again. Tests made from wall to wall, being in all about 8 inches (the whole, however, carrying heavy sulphurets), assay from $9·50 to $10 a ton. The two veins of quartz taken out clean give from $12·50 to $15 a ton. In the crosscut we have driven 5 feet, making the total distance from the shaft 39 feet, the flat vein, heretofore, reported has turned up, and I am now rising somewhat with the floor, and hope thus the sooner to meet soft ground, and when the belt of veins is met to cut at the junction of hard and soft ground.

NINE REEFS.—Fortnightly report of superintendent, dated October 30: Vyvyan's shaft. The stopes in the bottom of the 220 feet level south yield quartz of from 6 to 8 inches wide, and assay 2 ounces 7 dwts. of gold per ton. The stope in the bottom of the 220 feet level north produces quartz of about 6 inches wide, and assay 19 dwts. 14 grains per ton. The stope in the back of the 220 feet level south yield quartz of from 6 to 9 inches wide, and assays 1 ounce 6 dwts. 7 grains per ton. The stope in the bottom of the 145 feet level north, produced quartz of from 8 to 14 inches wide, and assay on an average 1 ounce 7 dwts. 11 grains per ton. The stopes in the bottom and back of the 145 feet level south yield quartz varying from 6 to 15 inches wide, and assay on an average 1 ounce 18 dwts. 5 grains per ton.—South shaft. In consequence of the very heavy and unexpected rains within the last few days the water at this shaft has increased to such an extent as to be now more than our pumps can deal with, and consequently the bottom, or 300 feet, levels are at present moment under water, hence am unable to give the usual measurements. I may, however, say the lode in the south end is of a promising character, and in the north level the lode matter now assays 2 dwts. 14 grains per ton. Additional pumps are being fixed at the 210 feet level as well as in the shaft below. These we hope will shortly be at work, and we expect to again get all the water in fork, and resume the above drivages in the course of another day or so.—Milling. Everything is being got in order at the mill for resuming crushing. We hope to commence doing so on the 1st proximo.—Surface. The general works at surface are being carried on in the usual order.

PESTARENA.—Mid-monthly report: Ends. In stoping forward the 46 east some ore is now being produced, estimated at 6 tons of 1 ounce 10 dwts. per fathom. The 55 east carries a small vein on hanging-wall which contains a little pyrites.—Crosscuts: 70 north. The rock is mixed with patches of quartz and has become much harder, otherwise no change has occurred. In the 90 Acquavita south there is nothing new to report.—Stopes. The quality of the ore now being broken has somewhat increased, while the quantity remains about the same as was last reported.—Stabioli Mine. The crosscut west from Morghen adit is still in massive gneiss.—Kint concession. The Guja adit has been exceedingly hard, and in appearance is similar to what it was before intersecting the last branch. The lode in the Kint end west is still 80 centimetres wide, and carried a considerable quantity of pyrites.—Good progress is now being made in forking the Quarazza winze, the depth having been increased by about 3 metres during the present month. A level extending to about 45 metres to the east has been found at this point, in which two winzes have been sunk, but their depth cannot yet be ascertained. A sample of the ore found standing (about 50 centimetres wide) has been taken to-day, and also one from the Kint lode, results of which will be made known later on.—Electrical plant. The work connected with this is being pushed forward with all possible energy.—Machinery. This continues to work without any breakages having occurred during the present month.—Transport. Bridges have been built for the transport of mill stone, and everything is now ready to take advantage of the first suitable snowfall.—(Signed) W. Henwood Trelease, T. Henry Mesco, Pestarena, November 15.

SUTHERLAND REEF.—Under date October 24 the manager writes; I am very glad to say that the rock has been going down much better in quality during the last few days, especially from the west stope between the 310 and the 210 levels, and there is also an improvement in the east drives on the 150 and the 210 levels. I I have started a winze on the latter level about 30 feet back from the face, where the rock was very good in the bottom of the drive, in the hope that it may carry down in good rock all the way to the 310, as that would open out a good stope if the same quality of ground continues for any length.

VICTORY (Charters Towers).—Copy of mining manager's report for fortnight ending October 5: No. 1 shaft. During the past fortnight there have been three men stoping on footwall reef at No. 6 north level. The reef will average 6 inches of fair looking stone. 10 tons have been raised from this place for the fortnight; there are 30 tons at surface.—No. 2 shaft. The crossdrive at the 320 feet level has been driven a further 8 feet. The present length of this drive is 67 feet. There is no change to report in this drive. In No. 1 A the reef is not looking as well the last few days; it is much broken up. The reef has always been very changeable. The quality of the stone is much about the same. In the stopes over No. 7 level the reef will average 15 inches of fair quality. The haulage from this shaft for the fortnight is 40 tons; estimated quantity in the hopper 190 tons. No. 3 shaft has been sunk by the contractors 38 feet, and timbered 91 feet 6 inches. The present depth of this shaft is 291 feet; of this 257 feet 6 inches is timbered.

KAPANGA.—Coromandel, September 23; I beg to hand you the following report for five weeks ending 21st inst.:—During the month the shaftmen were engaged overhauling the pitwork, also cutting pitches for bearers, and putting same in position. A new pent-house was also constructed with fixed and other gear for lowering column. The sinking will be resumed as early as possible. The rise above the 800 feet crosscut on the reef has been put up a further distance of 9 feet by four men. The reef is 21 inches in width composed of quartz and pug and has improved in the last few feet of rising and apparently the underlie is changing. The country rock is very hard, carrying small veins of iron pyrites.—Rise above the 420 feet level on the Kapanga reef. This rise has been extended 10 feet by three men, making total of 94 feet. The stope south of rise measures 51 feet by 6 feet. During the rising and stoping strong bloiches of gold were seen at intervals. Although the reef at present is not looking so well, another rise was advanced 11 feet, making a total of 65 feet. The stopes from same measured 34 feet by 6 feet and and 22 feet by 6 feet respectively. During the rising and stoping we found some fairly good picked stone, the reef being about 18 inches in width, carrying a solid body of quartz. We look on this as a most promising point. The drive south from top of main rise above 420 feet level on Scotty's footwall branch was extended 14 feet by two men. The reef is disordered through the influence of a slide. The intermediate level has been cleared and timbered 51 feet by two men, making a total of 115 feet. This work has been done to give better ventilation, as we have driven a crosscut to Scotty's hanging-wall branch. The drive north from intermediate crosscut was advanced 18 feet by two men, making a total of 53 feet. The rock is of excellent quality, and very highly mineralised. The reef is 10 inches in width, composed of pug and boulders of quartz, from which a little gold was obtained. The indications are good, and we are in hopes of picking up the shoot of gold that was lost in the intermediate proper. The drive north of Gunn's rise on Scotty's footwall branch above the 300 feet level has been extended 22 feet by two men. The reef in the forebreast is small. During the drivage we had at times blotches of gold, and the rock is of the productive class. The stope north of rise measured 22 feet by 6 feet. Three men have been engaged about this work. The reef is 15 inches thick of solid quartz, and looks very encouraging. Gunn's rise has been put up 18 feet, and a little gold was seen, but at this point the reef was rather narrow. The stope back of main rise is 25 feet by 6 feet. The reef is 14 inches in width, and produces good crushing dirt. Geards Rise, above the 300 feet level on Scotty's Reef was extended 5 feet, making a total of 51 feet. The stope south of same measures 12 feet by 6 feet, the reef is pinched, and so far nothing of importance has been met with. The drive south at the 300 on Scotty's hanging-wall portion has been extended 15 feet and produced fairly good ore. The drive north of Barrett's rise above 300 on Scotty's reef is in 36 feet. The stope measured 7 feet by 6 feet, at this point we obtained some good ore. The reef is 15 inches wide and looks very promising. The drive south of the last mentioned rise has been driven 22 feet. The reef at present is split up, but from indications, I believe it will make again shortly and be productive. Surface workings. Cotter's drive has been advanced 40 feet. The reef contained a little gold for the distance driven, but it is very narrow and has a bearing of about north and south, dipping to the west. A winze has been sunk 27 feet from the bottom of Cotter's level, and some good ore was obtained. Some stoping is also being carried out in the back of level. The reef is small, varying in width from ½ inch to 1 inch, but carrying gold. Altogether, the surface prospecting warrants more development work. We crushed during the month 56 tons of ore, which, after treatment, gave 275 ounces of amalgam, yielding 92 ounces 2 dwts. of melted gold. Machinery and pitwork working fairly well.—(Signed) W. H. Argall.

CHIAPAS.—Mine report for fortnight ending October 15: Santa Fe hill drift No. 3, total 150 feet 6 inches; no change. Santa Fe hill drift crosscut driven 4 feet, total 7 feet; no change. Taylor main extension driven 6 feet, total 672 feet; no change of rock, but shows 3 dwts. gold, 14 dwts. silver by assay. San Juan crosscut driven 7 feet total 82 feet. Assays 9 dwts. 12 grains of gold, 9 ounces 2 dwts. 12 grains silver, 3·8 per cent. copper. San Juan extension driven, 20 feet, total 20 feet. Assays as above, being extension of San Juan crosscut and Providencia crosscut east No. 1. Providencia crosscut east No. 1 driven 3 feet, total 203 feet. Assays 10 dwts. gold, 9 ounces 7 dwts. silver, and 3·07 per cent. copper. San Francisco adit (new tunnel below San Juan) driven 10 feet, total 10 feet. Providencia crosscut east in footwall driven 3 feet, total 3 feet; in quartzose ground. Taylor sub-crosscut north-east driven 8 feet, total 18 feet; more garnet, but no other change.—Extraction. Old Providencia stoped 285 tons. Assays 16 dwts. gold, 9 ounces 3 dwts. silver, and 4·28 per cent. copper. Santa Fe stope east stoped 47 tons. Assays 5 dwts. gold, 3 ounces silver, and 1·17 per cent. copper. San Juan stoped 391 tons. Assays 9 ounces 12 grains gold, 9 ounces 3 dwts. silver, and 3·8 per cent. copper. Providencia Aver. stope No. 1. Assays 9 dwts. 12 grains gold, 6 ounces 5 dwts. 12 grains silver, and 2·47 per cent. copper.

ELKHORN.—Copy of Mr. C. A. Molson's monthly report for October: Mine. Ore breaking department. 550 feet level south. The vein is 2 feet wide, and the value 54 ounces.—650 feet level south. Porphyry stope. The vein is 2 feet wide, and the value 30 ounces. We are taking down the hanging portion of the vein which was left standing in the stope.—750 feet level south. The vein is 18 inches wide, and the value 36 ounces.—850 feet level north. The vein is 5 feet wide, and the value 23 ounces.—South of the shaft. The vein is 20 inches wide, and the value 29 ounces.—950 feet level north. The vein is 8 feet wide, and the value 45 ounces.—South of the shaft. The vein is 2 feet wide, and the value 45 ounces.—1050 feet level north. The vein is 2 feet wide, and the value 35 ounces.—1150 feet level north. The vein is 20 inches wide, and the value 28 ounces.—1250 feet level north. The vein is 2 feet wide, and the value 26 ounces. South of the shaft the vein is 4 feet wide, and the value 38 ounces.—1350 feet level south. Raise stope. The vein is 10 feet wide, and the value 28 ounces.—Main stope centre. The vein is 20 feet wide, and the value 33 ounces.—1450 feet level south. The vein is 4 feet wide, and the value 48 ounces.—1550 feet level south, The vein is 3 feet wide, and the value 53 ounces, exclusive of some bunches and bands of high-grade smelting ore occurring in the footwall.—1650 feet level south. The vein is 2 feet wide, and the value 41 ounces.—1750 feet level south. Intermediate drift. The vein is 18 inches wide, and the value 70 ounces.—South drift stope. The vein is 2 feet wide, and the value 27 ounces.—South winze. The vein is 2 feet wide, and the value 26 ounces.—North of the shaft. The vein is 2 feet wide, and the value 54 ounces.—Underhand stope. The vein is 15 inches wide, and the value 80 ounces.—Prospecting department. 1250 feet level north. Raise to underhand stope extended 35 feet, total length 101 feet. The raise holed to the bottom of the stope, and the ore is now being broken and handled from below. The general results of the prospecting work during the past few months having proved unsatisfactory as far as the development of new ore bodies is concerned, all of this work has been stopped until such time as favourable indications will justify its resumption.—Amount and source of ore hoisted. 550 feet level 33 cars, 650 feet level 53 cars, 750 feet level 11 cars, 850 feet level 74 cars, 950 feet level 110 cars, 1050 feet level 39 cars, 1150 feet level 21 cars, 1250 feet level 336 cars, 1350 feet level 623 cars, 1450 feet level 131 cars, 1550 feet level 33 cars, 1650 feet level 7 cars, 1750 feet level 339 cars. Total 1870 cars.—No. of tons, 1113.—Milling department. The mill made a steady run during the month, the usual time being lost in the replacement of the worn-out castings, &c.—Table of work performed. Ore on hand October 1, 139 tons, raised from the mine 1113 tons, less smelting ore 21 tons, waste 126 tons, 147 tons, 965 tons, add for salt 176 tons, dry ore panned 1160 tons, pulp in the mill 65 tons, rough ore in stock 56 tons, 1282 tons, 1282 tons.—Table of mill work. Dry ore panned 1160 tons, average assay value 35 ounces, average percentage salt used 14 per cent., average value of tailings 3 ounces, average percentage saved 90 per cent., number of Doré bars produced 43, number of ounces fine silver 42,868, number of ounces pure gold 31, batteries in service 28 days 16 hours, pans in service 30 days, estimated value of bullion shipped $27,910, excess on September shipments 486, actual returns for ore shipped 1320; total $29,717. Current expenses, including salaries, labour, supplies, &c., $20,696; balance, being profit for October ($1·85 to £ sterling = £1860), $9020.—Shipping Ore: The shipments amounted to 21·5525 tons, and realised $1320·52, the average value being $61·02 per ton net.—Surface department. Everything in this department is going along in its usual order, the ordinary routine work only being done. The fine weather has closed, and the ground is covered with snow again.

ELMSLIE (LIMITED).—The manager reports: Right of purchase have been acquired over the Highland Mary 3B Mine returns 3660 tons for 7740¾ ounces gold; also the Mark Twain, a well-opened-up mine of good record, and the North Waratah, which adjoins the Waratah, now turning out ore worth £20 a ton. The company has been appointed London manager for the True Blue Block, Lady Isabelle, and North Croydon Consols. Two dividends each of 20 per cent. and one of 17 per cent. have been paid to the company on three of its investments. The company purchases on the Continent, for shipment to Australia, an article in much use in mining. Returns show a net profit of 22 per cent. in two months. The contracts lasts for many months yet.

BROWNHILL PROPRIETARY. — Extracts from Captain Vawdrey's letter, dated October 6; I find Hicks, the working manager, is doing excellent work, and that he is pushing the work on with energy. Several lode formations have been discovered in the leases, and are now being opened up. In lease 988 there is a nice lode formation which I hope will improve in depth. In lease 999 a large lode 8 feet wide has been struck, composed of ironstone and quartz. This lode looks very promising, and I trust will be payable in depth. The following cablegram has been received from Captain Vawdrey to-day:—"Mine superintendent reports lease 992 favourable news. The width of the vein (is) 6 feet; the reef assays in gold 2 ozs. per ton,"

SOUTHERN MINERAL BELT OF BRITISH COLUMBIA.

Being a series of letters from the special correspondent of the "Miner," written in July, 1895.

(*Concluded from page* 1402).

Fairview.

THIS camp is an extraordinary instance of miners' luck—bad luck, unfortunately, at present, though it would only take a very little to make everything at Fairview as rosy as men could wish. They have the ore, they have the men, they have not the money, too. It is the capital to develop which is wanted, for which they have been waiting now for seven or eight years.

At present there are only from 35 to 40 men in camp, and yet the discovery of Messrs. Sheehan and Gwatkin's claim dates back to 1888, and there is one developed mine now showing enough free milling ore to keep a 30 stamp mill going for four or five years treating 50 tons a day. This is McEachran and Mangott's property, known as the Morning Star.

It is the old British Columbian story at Fairview. The men who have found and are trying to develop the claims are poor men, who have no means of getting capital in. A strange feature in our country is this, whereas an American, no matter what his reputation is, or how stone broke he may be, can invariably go back east and get all the capital he wants—a Britisher cannot do so. Local capital does not exist, except in the hands of one or two men, whose names are almost unknown off Vancouver Island, who owe everything to the province, and to whom the province is never likely to owe anything, and English capital will not come into a country which men fresh from home assert is looked upon with the greatest possible distrust. How is this state of things to be mended? It is no good to sit upon our beam ends and wait for our minerals to develop themselves. It is a miserably weak thing to depend on our neighbours to develop them and hand over our country to their keeping. There is only one chance for British Columbia. Let our moneyed men take the trouble to visit our mining districts and, if there is an opportunity for making money by developing prospects, let them show their confidence in British Columbia by investing in a business which will remunerate them and help the country, and let our politicians squander no more money upon empty show, but spend every penny they can scrape together in trails for the prospector, roads for the miner, and an energetic attempt through well-chosen channels, will make British Columbia known in London, Birmingham, Manchester, Glasgow, and such places as these. It is, we believe, the truth which mining men of the greatest experience have spoken over and over again:—"There never was a mining country on the whole of God's earth so rich as British Columbia, and a terrible boom must come here some day," but we cannot live upon hope, and we have had enough of borrowing. The presence of men like Colonel Baker and Mr. Eberts in the country is a hopeful sign. If we only get men like them, and get them often enough, and keep them working, we can well afford to be content. But the mining field of British Columbia is so wide that it will keep them on the move from one end of the year to the other, if they would leave no place like Fairview unvisited.

The principal properties in and around Fairview are the properties of the Stratheyre Mining Company (Brown Bear, &c.); the Morning Star, owned by G. McEachran and Mangott; the Stemwinder, owned by Sheehan and Gwatkins; the Sunny Glen, owned by Elliott, and the Sunflower, owned, we think, by Gwatkin.

The Stratheyre has a 10 stamp mill and some very fine buildings (rather too fine for smelting to my mind) on their property, and have run for a considerable time, but have now closed down. There are plenty of men ready to tell you why, but it is better to hear as I did that the owners have recently visited their property and announced their intention of reopening at once.

The Morning Star, found 6 years ago by the present owners is a fine body of free milling quartz, milling from $15 to $20 to the ton. By steady work the owners have made a mine of their prospect, on which they have now two parallel ledges uncovered, a shaft 85 feet deep and another 75 deep. The ledges are on opposite sides of the gully and the owners intend, when they have gone deep enough, to connect the two shafts by a crosscut. The width of the ore body is from 10 to 12 feet, and it is satisfactory to learn that though the owners had to pay $50 per month for the use of the company's mill they have made quite a bit of money for themselves.

The Stemwinder, higher up the gully, is similar in character to the Morning Star, and, like the Star, has had a good deal of work done on it by the men who have held on to it so long. There is a shaft now in the lead 50 feet deep, and a tunnel 110 feet. The ledge is about 5 feet wide, and runs about $6·50 in gold.

The Smuggler, some little distance from Fairview, is a smelting property, the rock averaging over $100. It was not easy to obtain very full particulars as to this claim, as we had not time to visit it, but it has been worked steadily since I came, and Mr. Elliott informed us that he had been guaranteed $85 per ton free of smelting charges by the smelters at Tacoma and Everett.

Of the Sunflower, we only saw the assays of Mr. S. A. Guest, from which it would appear that there is good rock in the claim (one mile east of Fairview). The assays showed $35·14 in gold and $51·08 in silver.

If we might venture to do so we should suggest that an early visit be paid to Fairview by any of those who are politically interested in the camp. It is worth seeing, and its support worth having, and it is not only rich in ore but in discontent with political friends just now. Would not a mining commission, to visit and report upon every camp in the country, be almost worth the money spent upon it?

Rock Creek.

Rock Creek is a place of Chinamen and old memories. It was quite a place at one time, and now and again some one finds diggings which pay well for a month or two, but no one is doing very much there at present. The only work which is being done upon a big scale is being done by Chinese, the stores are kept by them, and they are all so infernally saucy that I heard one of them attribute canine ancestors to a white miner without getting his head punched. Up the creek a company of white men are sinking for bed rock, and though they have gone far without finding what they are looking for, they are working with that old bull-dog tenacity which may win them a big reward. I hope it may. But the hope of Rock Creek seems to me to be in the chance of finding the quartz from which the gold has come, and this cannot be far distant. All the gold which we saw in the Chinese stores was not only coarse heavy gold, but was peculiarly rough and uneven, as if it had not long left the matrix. As there are parties of prospectors all over the hills up Rock Creek, and elsewhere, and as we heard of men who were preparing to put in a solid summer some 80 miles up Kettle river, we may yet hear of something better than $3 diggings from this district before 1896. The quartz which supplied the gold of Rock Creek's early days would be worth finding. If the *Miner* took any interest in fishing or farming, or even big game shooting, I could tell a story which would paint Rock Creek in rosy colours, but I know that the *Miner* is narrow-minded. I am afraid it cares nothing for anything but mines and miners, and has a most pernicious habit of minding its own business. So on these subjects I am silent.

Boundary Falls.

Rossland has such attractions of its own, is so thoroughly alive and well advertised, that it must be a strong camp indeed that can attract men from the city of Trail Creek. And yet any one who walks from Trail to Boundary will not find that he has the road to himself. Men are pouring into the Boundary Creek country in a steady stream, although it is still far from railways, and there are three high rivers and a bad trail between it and Trail Creek. Men have heard of the huge bodies of ore at Boundary, and though they cannot be expected to believe all they have heard, they have heard enough to make them anxious to go in and see for themselves. Among the men who have done their best to advertise the country to the outside world is Mr. Suydam, a man known in many camps outside of British Columbia, and amongst those who have been in to see for themselves are representatives of the Parrot Mining Company of Butte; Mr. Largee, banker of Buttee; men from Minneapolis, Chicago, and elsewhere. Of these who went in doubt a large number have not only returned in faith, but have bought largely as a proof of that faith. To get down at once to details. The camp itself is divided into half-a-dozen camps or more, lying within a radius of (say) 10 miles from Boundary Falls, and consists of large deposits of red oxide of copper, copper glance and native copper, in what is known as copper camp; high grade galena, carrying gold, at Skylark camp; copper sulphides, carrying gold, at Deadwood; sulphides, carrying gold, copper, and iron, at Greenwood; free milling ore, and refractory ores, carrying gold, silver, and copper at White Allwoods and Douglas camps, and free milling ore at the Gold Drop camp. A great deal of the ore of the districts so closely resembles Trail Creek ore that even experts cannot tell them apart, and like the Trail Creek Mines, the character of the deposits found at Boundary is that they improve with depth. But the feature of Boundary Creek ledges is their enormous size. Even the local boomers, if there are such people, have to be content with the bulk—nay, more, they diminish instead of increasing the width of their veins. They dare not tell strangers what they have; they would rather that strangers went in and looked for themselves. We were persuaded to visit the Snowshoe claim, the property of a Mr. Denzler and others, and to take a tape with us. It must be clearly understood that the information collected in this article, though collected with the greatest care from the most reliable sources available, had to be obtained in many instances at second hand. Our authorities were Mr. W. Gibbs, the gold assayer, Mr. Suydam, Mr. Kendell, Mr. Denzler, and one of the owners of the Copper camp. These men all agreed in the main, and we have taken the lowest estimate given by any of them as the basis of our report, and in addition to that made a personal inspection of the Greenwood camp. As no one knew which camp we meant to visit, and as the report concerning this camp was proved to be accurate, and as assays shown us further bore out statements made to us, it seems fair to conclude that the other sub-divisions of the camp not actually seen by us were fairly and honestly reported by our informants. The Greenwood camp lies in a deposit of refractory concentrating ore, easily treated and concentrating 7 to 1. It is stated that Professor Courtis gets from concentrates in this camp $620 per ton. The capping in the camp is iron: the mineral resembles that found at Rossland, containing lime, iron, silica, sulphur, copper, silver, and gold, though there is so little silver in most of the claims that no assays are made for it. The ore is generally oxidised on the surface, and in some places to a depth of 7 feet. The gangue is principally quartz, and the assays of fair average rock run from $3 to $32 per ton in gold, and from a to 10 per cent. in copper on the top, but here, as elsewhere in the belt, it is an almost invariable rule that the ore improves as you go down. The Greenwood claims lie in a narrow, timbered valley, to the west of which lie the Nob Hill, Ironsides, Brooklyn, Phœnix, and Stemwinder; on the east, the Monarch, Rawhide, and Snowshoe. There are, of course, a lot of others, but these are the principal claims at present. The Stemwinder, which was the first we visited, has been bought, together with its neighbour, the Phœnix, by the Parrot Mining and Smelting Company of Butte, Montana. In the shaft, at a depth of 28 feet, the ore assays from $5 to $50 in gold (assays have been obtained showing as much as $139, but no one pretends that this was fair sample rock) and from 2 to 23 per cent. copper. On the Snowshoe, we were told that ditches or crosscuts had been cut 70 or 80 feet long, all in solid ore. The writer himself measured one over 110 feet in which ore or croppings of ore could be traced for the entire length, honest measurement. There are on this claim, which I take as a type of the field, three ledges certain and one suspected, all running south-south-west, as do the ledges generally in this country. The assays, according to the owner, Mr. Denzler, run from $3 to $32 in gold and 6 per cent. in copper on the top, and I should like to say for Mr. Denzler that I never saw a man more anxious to give a conservative estimate of everything connected with his own claim to which he has stuck, and upon which he has worked through good and bad times alike since 1891. It seems to me that if British Columbia ever becomes a prosperous country, with a small debt and light taxes, she will owe it to men like Mr. Denzler at Greenwood, and McEachran and Mangott at Fairview, and a score of men of their kind who first find their prize in earth's wildest corners, and then stick to it and put the best years of their life and bone and muscle, not easily matched, into a whole in the ground—waiting year after year with magnificent patience for the reward of their labours.

Of the other camps I have not room to speak in detail. In Summit camp the ore does not run so high as in Greenwood, but is of the same general character. The Parrot Mining Company of Butte owns five claims here, and is developing them. In one of them a shaft has been sunk 80 feet, with a crosscut of 30 feet, showing ore all the way. White's camp has a lot of work done upon it. In the City of Paris there is a 16 feet body of ore showing, and a shaft sunk 67 feet proves the old rule that the lower they go the better the ore becomes. Eighteen dollars in gold, 7 or 8 per cent. in copper, and 20 ounces of silver is the record of this camp. On the Skylark they claim 70 feet of ore going 200 ounces in silver and 1 ounce in gold. Seventy tons have been shipped from here to Tacoma. The Copper camp is a huge deposit of red oxide of copper, in which they have a body 70 feet wide showing in one place. This ore assays 5 to 53 per cent. copper and 14 ounces in silver, and reliable witnesses assert that there are hundreds of tons lying on the dump which will go 30 per cent. in copper. And so the story goes; but the trouble is that though the ore is rich and in those enormous bodies which most tempt the [illegible] capitalists, nothing can be done with it by the present owners until a railway comes along. Marcus is the nearest railway point, and that is 65 miles away; there are no mills or condentrators or capital to build any. The ore is there, and magnificent water power, and just enough big mining men are buying in the country to give the plucky prospectors hope, but prospects are still cheap at Boundary Falls, cheaper probably by 50 per cent. than at Rossland.

There is only one favour which Boundary Falls asked of the moneyed men, and that is to come in themselves with the best experts they can find and decide for themselves whether any part of the world offers better opportunities for the profitable investment of capital than their own camp.

The principal free milling propositions near Boundary Falls are either in White's camp, in which several runs of rich, free milling ore occur, or in the Gold Drop camp.

In White's camp the free ore veins average about 1 foot in width and run all the way from $5 to $100 a ton in gold. In Gold Drop the ore ranges from $20 to $80 per ton, but comparatively little is yet known of this camp, in which fresh strikes are being made daily.

One word in conclusion. Boundary and Boundary Falls are not the same thing; they are 4 miles apart. One is a town site, the other a camp. Boundary, or Midway, is the town site.

METAL CIRCULARS.

Messrs. HENRY BATH and SON'S Copper Report, dated November 19, 1895, says:—The Chili charters for the past fortnight are advised as 900 tons. The latest Exchange is 17¾d. We have still to report a fair amount of business in G.M.B. copper daily. A decline in the price set in at the commencement of the month, reaching £43 10s. cash and £43 17s. 6d. for three months on the 8th instant, though we closed on that date at 2s. 6d. to 3s. 9d. better. The following days showed an advance, £44 10s. cash and £44 17s. 6d. three months being paid on the 13th instant, but we again dropped back to £44 2s. 6d. cash, which was the closing price on the 15th instant. Yesterday the market was dull, and on a small business prices declined to £43 15s. cash and £44 2s. 6d. to £44 3s. 9d. three months, in spite of the large decrease in stocks. This morning a fair business was done, closing dull at £42 15s. cash and £43 2s. 6d. forward. The deliveries are good, and the reduction both in stocks and visible supply are very large, but confidence, shaken by affairs political and financial, is not yet restored. The price of copper in America has fallen to 11·25 cents per lb. with little or no business doing, consumers having supplied their wants for some time to come, have naturally held off the market seeing the unsettled condition of the stock markets. The shipments from America for the past fortnight are advised as 2587 tons. The arrivals and deliveries at Hamburg, Antwerp, and Rotterdam are 895 tons. Imports of American copper into England have been 49 tons and into France 175 tons, or 672 tons against 756 tons last year. Total actual deliveries for the fortnight have been 6849 tons against 2835 tons imports. The stocks have decreased 4014 tons. The visible supply shows 46,869 tons against 50,383 tons last fortnight. We hear of no transaction in furnace material since our last report.

England and France.	Imports.	D'liv'r's.	Stocks.	Afloat	Total & Charg. ntered for, supp
Chili copper at Liverpool, Swansea, and in France	400	2,976	36,530	3,000	42,9
Foreign copper in London, chiefly Australian and Japanese	510	845	1,951	900	3,8
American copper at Liverpool, London, and Swansea	497	780	1,033	—	1,7
Other copper at Liverpool & Swansea	1,063	2,830	910	—	4,8
English copper at Liverpool & Swansea	—	—	—	—	—
American copper in France	175	160	277	—	6
Other copper in France	200	105	369	—	6
Tons fine copper during the fortnight	2,835	6,849	42,969	3,900	56,6
Against tons in November 2, 1895	4,030	5,660	46,983	3,400	60,0
Against tons on October 17, 1895	3,644	4,424	48,613	4,150	60,8

	1894.	1893.	1892.	1891.
Total visible supply, November 17	52,836	47,241	54,356	60,516

	1889.	1888.	1887.
Total visible supply, November 17	102,009	91,343	47,651

Price of Chili bars same date:—£40, £42 6s. 3d., £46 15s., £45 10s, £55 15s. £46 13s. 9d., £78 2s. 6d., £47 12s. 6d., £40 12s. 6d.

	Tons fine. 1895.	Tons fine. 1894.	Tons fine. 1893.	Tons fine. 1892.
Imports from Chili and Bolivia from January 1 to date	18,728	18,566	17,809	17,917
Imports from America from January 1 to date	22,606	36,078	46,823	27,318

	1890.	1889.	1888.	1887.
Imports from Chili and Bolivia from January 1 to date	22,583	21,909	25,579	25,341
Imports from America from January 1 to date	19,013	25,246	27,782	16,089

The shipments to Europe from America from January 1 to date are tons, as against 55,554 for corresponding period last year. The shipments from America are estimated at 2500 tons.

Imports.—The arrivals from the West Coast have been as follows:—

	Ores. Tons.	Regulus. Tons.	Bars. Tons.	Ingots. Tons.	Bullis. Tons.
At Swansea, *Nil.*					
At Liverpool, *Gulf of Florida* (s) from Valparaiso, &c.	—	—	250	—	—
In France, *Serapis* (s) from Valparaiso, &c.	—	—	—	150	—
Tons	—	—	250	150	—
Corresponding period of 1894	38	43	868	160	—
" " 1893	2480	60	543	200	—
" " 1892	785	550	576	87	—
" " 1891	1330	398	2232	25	—

Stocks.—We estimate the present available quantities of West Coast copper to be:—

	Ores.	Regulus.	Bars.	Ingots.	Bullis.
At Swansea	—	—	625	—	—
At Liverpool	10	—	36,987	311	—
In France	—	—	355	170	15
	10	—	37,967	502	15

representing about 38,530 tons fine copper against 40,406 tons on the 2nd inst.
against " 37,110 " " November 17, 1894.
" " 32,215 " " " 1893.
" " 33,265 " " " 1892.
" " 35,130 " " " 1891.

Supply of West Coast copper may be estimated from the following figures:—

	Tons.
Actual stocks at Swansea, Liverpool, and in France	38,530
Afloat and chartered for at date of last advices per mail and cablegram	3,000
Total	41,530 against 42,906 tons

			Tons.
Against same date	1894, Stock	37,110 afloat, &c.,	2,780 = 39,890
	1893,	32,215 "	2,651 = 34,866
	1892,	33,265 "	2,950 = 36,215
	1891,	35,130 "	3,360 = 38,490

Quotations for West Coast copper are as follows:—

	To-day.	Nov. 17. 1894.	Nov. 17. 1893.	Nov. 17. 1892.	Nov. 17. 1891.
Ores	8/6 to 9/1	£3 7 9	£3 9 0	£2 0 9	£3
Regulus	8/6 to 9/1	£3 7 9	£3 9 0	£2 0 9	£3
Bars	42 15 to 42 17 6	40 0 0	42 0 0	48 15 0	49
Ingots, Uncertain	Nominal	Nominal	£5 10 0	£1 0 0	£3
Bullis	—	—	—	—	—
Precipitate	about 9/3 to 9/6	about 8/4½	about 8/7½	0 0 7	0

For other descriptions we quote to-day:—Wallaroo, nominal. English tough about £47 10s. to £48, Burra Burra nominal. English manufactured about £55, best selected about £48 10s. to £49, India sheets about £52 G.M.B. copper £42 15s. to £43 cash and £43 2s. 6d. to £43 5s. three months.—Sulphate of copper. About £16 2s. 6d. to £16 5s. cash and forward.—Tin: Standard £64 17s. 6d. cash, £65 7s. 6d. three months.—Spelter: Ordinary £15 2s. 6d. to £15s. 3s. 9d. English about £15 12s. 6d. Blende 50 per cent. is worth about £3 2s. 6d., and calamine about £3 5s.

Lead; Irregular. About £11 7s. 6d. to £11 10s. With silver 50 to 80 ounces about £11 10s. Lead ore of 70 per cent. is worth about £4 per ton.—Pig iron; Closing quotations for Scotch pigs are about 46s. 5½d.; Middlesbrough, 37s. 11d.; hematite, 47s. 6d. cash.—Antimony: Quiet. Star regulus about £32. Ore £8 to £8 5s. for 50 per cent. good quality and produce. Crude about £14 per ton.—Quicksilver: The official price is £7 7s. 6d.; 7s. 6d. asked for seconds.—Bar silver: 30 11-16d. per ounce standard.—Discount: The bank rate remains at 2 per cent.

Messrs. JAMES LEWIS and SON'S Mid-monthly Report on Copper, dated Liverpool, November 18:—A combination of adverse circumstances has brought about a decline of £1 7s. 6d. per ton in the value of good merchantable copper since the 1st inst. The long-foretold fall in mining shares (113 South African mining and allied companies having depreciated 125,000,000 sterling in six weeks) and consequent panic on the London Stock Exchange and chief Continental Bourses, the political and financial position of Turkey, and the strike of the shipbuilders at Belfast and on the Clyde had a depressing effect, but the lower range of values is mainly due to the steady and continuous selling of American copper for delivery over the next eight or nine months, as well as of good merchantable copper on American account. It was thought that support would have been given to the market by the firms largely interested in Anaconda, Boleo, and Rio Tinto shares (the former having sold at £5 10s., and the latter at £15), but this has not been forthcoming. From £45 2s. 6d. on the 1st inst., cash, G.M.C. sold down to £4 10s. on the 8th, recovering to £44 7s. 6d. on the 13th, with the improved feeling generated by Lord Salisbury's speech on the political situation, but subsequently declined again to £43 15s.—the closing value—notwithstanding the exceptionally large reduction in the public stocks, chiefly due to the conversion of Chili bars into best selected ingots and sulphate of copper. A good demand exists for refined copper of all descriptions both for English and Continental account, the immediate delivery required in many cases being difficult to obtain. In New York the published quotation for Lake has fallen from 11·75 to 11·25 cents per lb., while relatively lower prices have been accepted for matte, Arizona bars, argentiferous pig, and electrolytic copper for shipment to Europe.

Producers' returns are as follows:—

	October.		January to October.		12 months.
	Tons.	Tons.	Tons.	Tons.	Tons.
European production	7,753 ...	7,240	71,301 ...	73,935	88,505
American production	15,015 ...	12,622	126,692 ...	122,284	142,473
do imports	1,100 ...	1,500	13,500 ...	13,680	17,020
do exports.....	3,773* ..	5,057	52,721 ...	65,552	77,130

* United Kingdom ..... 489 tons
France ..... 559 tons
Germany, Holland, &c. ... 2683 tons
Mexico ..... 2 tons
3773 tons

American exports for the first half of November are 2150 tons. Stocks have decreased 4014 tons, and the visible supply 3538 tons during the past fortnight. Imports to date are 5772 tons less, and deliveries 8514 tons greater than last year. The arrivals in England and France for the fortnight have been 2835 tons, and the deliveries 6849 tons. The arrivals of Chili in Liverpool and Swansea have been 250 tons, and the deliveries 1976 tons, and from other countries 1650 and 3411 tons fine respectively. The arrivals here and in Swansea from the United States have been 133 tons bars, and 644 tons matte, equal to about 497 tons fine, and in France 175 tons fine. The Chili charters for the past fortnight are advised as 900 tons, and exchange 17¾d. No sales of furnace material have been made public.—Quotations to-day are:—Chili bars and good merchantable copper £43 15s. for cash, and £44 2s. 6d. for three months' prompt. English best selected ingots £48 5s. to £48 15s., and tough cake £47 10s. to £48 per ton. Ore of 20 per cent. 8s. 6d., regulus and matte 8s. 9d. per unit.

Messrs. HARRINGTON and Co.'s copper report, dated Liverpool, November 19, has the following:—Chili charters for the past fortnight are cabled as 900 tons, making the total since December 31 last 19,750 tons, against 18,650 tons since last year. Exchange 17¾d. Since our last the market for G.M.B.'s has been depressed, the continued unsettled state of the Stock Exchange, and the reduction in price in America from 11·62½ to 11·12½ cents per pound caused prices to decline from £44 11s. 3d. cash, and £44 18s. 9d. three months, to £42 12s. 6d. and £43 respectively, paid this morning. This afternoon there was an improvement, and we closed steadier, with buyers, at £42 18s. 9d. cash, and £43 7s. 6d. three months. The actual deliveries for the fortnight are 6849 tons, and the visible supply shows a decrease of 3538 tons. The following are the returns of the Copper Producers' Committee:—

	October	Four months since 1st July.	Maximum allowed under old agreement.
European production	7,753	28,817	28,340 tons.
American ,, ...	15,015	56,080	41,732 ,,
,, from pyrites.....	1,100	4,400	4,838 ,,
Total	23,868	89,297	74,915 ,,
American exports	3,773	18,407	20,000 ,,

The total stocks in Liverpool, Swansea, London, and Havre are 42,969 tons, against 46,983 tons on the 1st inst., showing a decrease of 4014 tons for the fortnight. The stocks include about 800 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 46,712 tons, against 50,250 tons on the 1st inst., showing a decrease of 3538 tons. Refined and manufactured sorts are quiet, quotations being:—Tough cake £47 to £47 5s., best select £47 10s. to £48, Indian sheets £51 10s. to £51 15s., strong sheets £54, and yellow metal sheets 4½d. per lb. There are no sales of furnace material reported. Tin: The market for Straits fluctuated between £65 16s. 3d. and £64 17s. 6d., closing to day at £64 18s. 9d., Australian £65 16s. 3d., English £68, and Peruvian £47 to £60, according to quality. Sulphate of copper quiet at £16 5s. spot and forward. Lead during the past fortnight has been steady, closing firm at £11 8s. 9d. to £11 10s. for Spanish, and £11 10s. for Spanish, and £11 12s. 6d. to £11 15s. for English.—Spelter: The market since our last has been steady, and prices are quoted at £15 2s. 6d. for ordinary Silesian brands.—Quicksilver: Since our last the market has been quiet, closing at £7 5s. 6d. per bottle for Spanish.—Bar silver: The market has gradually declined from 30 15-16d. to 30 11-16 per ounce standard, which is to-day's closing price. Antimony quiet, Star regulus at £31 per ton. Ore irregular about £7 15s. to £8 for 50 per cent. good quality and produce. Bank rate of discount has remained at 2 per cent. since February 22, 1894.

WESTRALIAN COAL.—Early in the present year samples of coal from the Collie River fields, near Bunbury, Western Australia, were sent to London for examination by geological experts. Reports have now been received over the signatures of Dr. Henry Woodward, of the British Museum, and Professor Robert Etheridge, F.R.S. These excellent authorities consider the specimens much superior to those previously sent from the same coal field, and they are of opinion that the quality will continue to improve the deeper the field is worked. They pronounce the samples true coal, but Mr. Sutherland, the well-known analytical chemist, considers them lignite of valuable quality rather than coal proper. The seams discovered in the Collie River are of very considerable area.

THE EXPORT OF GOLD FROM WESTERN AUSTRALIA.—The *Times'* correspondent at Melbourne telegraphs on November 14:—"The value of the gold exported from Western Australia during the four months which ended on October 31 last was £341,370, as against £306,138 for the same period of 1894." This is at the rate of £1,024,110 per annum.

MINES INSPECTORSHIP.—Mr. Fred. Napier White has been appointed an assistant-inspector of mines, under the Coal Mines Regulation Act, 1887, and is also directed to act as an inspector for the purposes of the Metalliferous Mines Regulation Acts, 1872 and 1875; the Quarries Act, 1894; and the Factory and Workshops Acts, 1878 to 1895.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

MR. SAMUEL JOHN DAVEY, Dealer in Cornish Mine Shares, Redruth, Cornwall, reports under date of November 21, (4 o'clock) as follows:—We have had a very quiet market all this week, with easier prices. There is but very little doing to-day. Following are quotations:—Blue Hills, 1s. to 2s.; Carn Brea, ⅞ to 1; Dolcoath, 18s. to 19s.; Dolcoath (partly paid), 5s. 6d. to 6s. 6d.; East Pool, 3½ to 3¾; Killifreth, 5s. to 7s.; South Crofty, ¼ to ½; South Wheal Frances, ¾ to 1; Tincroft, 2¾ to 3⅛; West Frances, ⅜ to ½; West Kitty, 4 to 4¼; Wheal Basset, 3½ to 4; Wheal Grenville, 12½ to 12¾; Wheal Kitty (St. Agnes), ¼ to ⅜; Polberro, ¾ to 1.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (November 21) as follows:—The mining market continues quiet, with almost an absence of business, and shares generally are weaker on the further decline on the tin standard. Quotations:—Blue Hills, 1s. 6d. to 2s.; Carn Brea, 19s. to 21s.; Devon Consols, 27s. to 28s. 6d.; Dolcoath (fully paid), 18s. to 19s.; ditto (partly paid), 6s. to 6s. 6d.; East Pool, 3½ to 3¾; Killifreth, 6s. to 7s.; Levant, 4 to 4¼; Polberro, 14s. to 15s.; South Crofty, 7s. to 8s.; South Frances, ¼ to 1; Tincroft, 3¼ to 3½; West Frances, 11s. to 12s. 6d.; West Kitty, 3⅞ to 4; Wheal Basset, 3½ to 3¾; Wheal Grenville, 12½ to 12¾, x.d.; Wheal Kitty, 6s. to 7s. 6d.; Wheal Metal (5s. paid), 6s. to 7s. 6d.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of November 21:—There has been very little life in the market during the week, and where business has been effected prices have been considerably lower. In the absence of actual business it is difficult to give quotations, which in many cases are quite nominal. Quotations herewith:—Blue Hills, 1s. to 3s.; Carn Brea, 1 to 1¼; Dolcoath (fully-paid), 18s. to 19s.; ditto (5s. paid), 6s. to 7s.; East Pool, 3½ to 3¾; Killifreth, 5s. to 6s.; Polberro, ⅜ to ½; South Crofty, ¼ to ½; South Frances, ¾ to 1; Tincroft, 3 to 3½; West Frances, ¼ to ⅜; West Kitty, 3⅞ to 4¼; Wheal Basset, 3½ to 4; Wheal Grenville, 12¼ to 12¾; Wheal Kitty, ⅜ to ½; Wheal Metal (3s. paid), 3s. 6d. to 4s. Tin, 64¾.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write, November 21 (noon):—The past week has brought on another violent spasm which has afflicted markets all round. On Friday and Saturday last prices did not slip away much anyhow, and home rails mended rather on both days, although there was not a great number of transactions on either of the days. On Monday things went very idle, and shadow of what was to come was about, although Canadian Pacifics and in Americans one or two instances being exceptions to the flatness, particularly Louisvilles and "Milks." On Tuesday forced selling began again on a heavy scale, and figures were forced down in all directions, with latest figures the worst of the day. Yesterday the selling was continued, thus time and prices coming in for most pressure. In rails, however, latest figures were a little ahead of the lowest of the day. This morning opened with figures nominally at or about those ruling at the close last night, but early a better tendency was manifested, but up to writing (noon) the said tone had not resulted in much (though somewhat general) improvement. In the midst of the movement such as we have to chronicle, it is not astonishing (with affairs in the East in such a "ticklish" condition) that Consols have further relapsed. Besides, it is very probable that sales of Consols may have been made to provide cash for operations in other markets. However, they are down 1 on the week, a severe fall for such a high and dry stock as Consols. Foreigners, notwithstanding the turmoil, are irregular, the advances being well proportioned to the declines; in fact, about balancing each other. In banks, Imperial Ottomans are lower again, otherwise the declines, though in majority, are not of distinct importance. Other changes in the miscellaneous classes are mostly on the downward direction, but they are not so in all sections, as will be seen by details following:—

CONSOLS.—Lower: 2⅞ per cent., 1.

COLONIAL STOCKS, &C.—Higher: Victoria Inscribed, ¾ to 1⅛. Lower: New South Wales Inscribed, 1¼; Cape of Good Hope Inscribed, 1.

CORPORATION STOCKS AND DEBENTURES.—Lower: Douglas Three and a-Half per Cent., ¼ to 1½.

FOREIGNERS.—Higher: Brazilian Four and a Half per Cent., 1⅛; ditto Four per Cent., ½; Egypt Unified, ¼; Mexican Six per Cent., ½; Portuguese Three per Cent., ¼; Russian Four per Cent., ⅛. Lower: Argentine Six per Cent., 1¼; Italian Rentes, ¾; Spanish Four per Cent., ⅜; Turks, 1891, ½; ditto D, ⅜ to ½.

BANKS.—Higher: Manchester and County, ½; National Provincial, ⅛.—Lower: Imperial Ottoman, 1½; London and Midland, ¼; District, ⅛; Union of Manchester, ¼; W. D. and Manchester and Salford, ⅛.

INSURANCE.—Higher: Reliance Marine, 1-16; Sea Insurance, 1-16.—Lower: London and Lancashire, ⅛; Maritime, 1-16; Thames and Mersey, ¼.

MINES.—Lower: Chartered, ⅛ to 11-16; Consolidated Gold Fields, 3⅛; De Beers, ½; Rio Tintos, 1½.

COAL, IRON, &C. — Higher: Cammell's, ¼. — Lower; Bolckow Vaughan (fully paid), ⅛; ditto (£12 paid), ¼; Dorman Long, ⅛; Sheepbridge "A," ⅛.

TELEGRAPHS AND TELEPHONES.—Higher: National Telephone, 1-16.—Lower: Anglo-American Deferred, ⅛; Eastern Telegraph, ⅛; Western and Brazilian Preference, ⅛; West India and Panama, ⅛.

BREWERIES.—Higher: Chester's, ⅛; Manchester, ⅛; Taylor's Eagle, ⅛ to ¼; ditto Preference, ⅛.—Lower: Allsopps, 4; Threlfalls, 1⅛.

MISCELLANEOUS.—Higher: Coats' ⅛; Henry's Ordinary, ⅛; Milner's Safe, ⅛; Ruston Proctor, ⅛; Gas Light A, 1.—Lower: Bodega, ⅛ to ⅜; Crosses and Winkworth, 1-16 to 3-16; Cunard Steam, ⅜; Howard and Bullough, ⅛; Hudson's Bay, ⅛; Lister's, ⅛; United Alkali, 1-16; Imperial Continental Gas, 2.

LATER (4 p.m.)—The day developed cheerfulness as the day wore on, and notwithstanding the incubus of the depressed prices which have been recorded, the finish this evening is at about the best figures of the day in most if not all markets.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (November 21), writes:—During the past week the market, especially for Kaffirs, has been depressed, owing to sales on account of tired holders and to close speculative accounts. The threatening appearance of foreign politics has assisted the downfall. A recovery has, however, set in from the worst.

In shares of coal, iron, and steel companies prices are generally lower. Fifeshire Main Preference are at 30s., Marbella 49s. 6d., Niddrie Colliery 43s. 6d., Steel Company of Scotland 66s.

In shares of foreign copper concerns, a considerable business has been done, but prices are lower in sympathy with the market for the metal. Arizona touched 43s. 6d., Tinto 14½, and Tharsis 90s. 6d., but are now all better. Cape are at 46s. 6d., Mason 50s., Polberro Tin 14s. 6d., and Killifreth 6s.

In shares of gold and silver mines a large amount of business has been done. Owing to closing accounts, and a report that the first crushing of Geldenhuis Deep was unfavourable, prices gave way seriously, but it is stated that the crushing is more favourable than at first expected, and a rally has set in. Chartered touched 86s. 3d., and improved to 5: Consolidated touched 10⅞, and improved to 12⅝, East Rand improved from 5¼ to 5⅝, and Randfontein, which fell from 61s. to 45s., are now 50s. 6d. Oceana touched 43s. 9d., on rumours of a dividend, but have declined along with the market generally. If the Chartered meeting next month is likely to be good, it may further help the market. It seems getting into an almost hopeless condition. Afrikander are at 27s. 6d. to 30s.; Anglo-French Investment, 80s.; African Recovery, 30s.; British Broken Hill, 11s. 6d.; Bechuanaland, 36s.; Big Blow, 10s.; Balkis Land, 6s. 6d.; Black Flag, 27s. 6d.; Broken Hill, 46s. 9d.; Block B, 37s. 6d.; Cassel, 13s.; Craven's Caledonia, 3s.; Cripple Creek Gold Fields, 25s.; Central Exploration of West Australia, 30s.; Charterland, 21s. 3d.; Elkhorn, 3s.; Golden Crown, 28s. 9d.; Guy Fawkes, 17s. 6d.; Golconda, 9s.; Great de Kaap, 4s. 6d.; Gold Fields of Mysore, 18s. 9d.; Hauraki, 9s. 6d.; Holcomb, 1s. 3d.; Idaho, 6s.; Jackson's Gold Fields, 1s. 9d.; Klerksdorp, 11s.; Lisbon, 6s.; Luipaard's Vlei, 18s.; Mashonaland Agency, 51s. 3d.; Nolzykop, 3s. 6d.; Orient, 17s. 6d.; Orion, 57s. 6d.; Paarl Central, 27s. 6d.; Paddington Consols, 22s. 6d.; Rand Roodepoort, 9s. 6d.; Spes Bona, 22s. 6d.; Sam's Wealth of Nations, 3s.; Tati Concession, 42s. 6d.; United Rhodesia, 19s.; Victoria and Altamira (pref.), 2s.; Wemmer, 9½; Wealth of Nations, 7s. 6d. prem.; and Zambesia Exploring, 71s. 3d.

In shares of miscellaneous companies there has not been much business doing. Oil companies shares improved on a further advance in the price of American oil, but have not maintained the top prices touched. Broxburn touched 13⅜, Pumpherston 10¼, and Young's 52s. 6d. Nobel's Explosives are at 15½.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of November 21:—Since last week's report there has been a marked relapse in railway ordinary stocks. Caledonian Deferred has fallen from 50⅞ to 49 1-16, North British from 40 to 37⅝, ditto Ordinary Preference from 80⅝ to 79, Highland from 107¾ to 107. Canadians and Americans have also been much depressed. In insurance shares Caledonian have risen from 28 to 28½, Life Association of Scotland from 43¼ to 44, North British and Mercantile from 39¼ to 39⅜, Scottish Union A from 88s. to 90s. 6d., Standard Life from 64¾ to 65½. National Guarantee have receded from 79s. to 77s. 6d., Northern Assurance from 73 to 71½. In banks, Bank of Scotland has advanced from 337 to 340, British Linen from 397 to 398, Commercial from 70 to 71, Town and Country from 20 to 20½, Union from 20⅛ to 20¾. Clydesdale Bank shares have declined from 19¾ to 19 9-16. There has been an advance in Arniston Coal, Cowdenheath Coal, Stewart and Clydesdale, and Wilsons and Clyde. Steel Company of Scotland shares have fallen from 76s. to 66s. 6d. Copper shares have been heavy. Arizona have fallen 7s. 9d., Rio Tinto 18s. 9d., Tharsis 5s. Broken Hill shares have improved from 41s. to 46s. 6d. Dalmeny Oil shares have gone from 17½ to 16. Broxburn, Pumpherston, and Youngs are somewhat higher.

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(FROM OUR SPECIAL CORRESPONDENT.)

THE result of the last 12 weeks' working at East Pool has been a profit of over £1500, and this, in view of the untoward circumstance of bad price, must be regarded as eminently satisfactory. The sales of arsenic and copper ore amounted to £1200, so that these by-products are an important factor, because they are cheaply produced. The fact remains, however, that in tin alone there was a profit caused by an increased output of nearly 50 tons, and a better average price than in the previous quarter. They have evidently a good bunch of tin at the 200 fathom level, which is valued in the report at £50 per fathom, which means that the lode must be producing nearly a ton and a half of tin per fathom. There was not much said at the meeting in regard to the mine itself, but it may be assumed from the accounts and the report that there is no falling-off in the mine. There was a long and important discussion as to the position in which they were placed by the inability of the executive to come to terms with Wheal Agar on the water question, and the difficulty has now assumed more serious proportions than at any previous time. The East Pool committee declare that they have done all in their power to bring about a settlement, and we are inclined to agree that in the latter stages East Pool has shown a much greater willingness to come to terms, and to make some working agreement. For instance, the offer made to Wheal Agar by Mr. Lanyon, on behalf of East Pool, to pay £175 a month towards their neighbours' water charges for two years is as far as they could be expected to go; and it is a more generous offer than many of the shareholders would have cared about had it not been in the hope that it would settle the whole business. As, however, there seems to be no possibility of dealing with the Agar committee, East Pool has no alternative but to state their case to Lord Robartes, the owner of the mine. Lord Robartes is naturally unwilling to put into operation the power which he undoubtedly possesses of compelling the Agar people to work their mine or else abandon it; he recognises the fact that they spent a good many thousands of pounds on the property, and that they have asked for a little breathing time. Well, nine months, with the danger of a disaster for all that Agar people cared or attempted to avert, is a fairly good breathing time, and, much as we regret the necessity for the interference of the lord of the mine as setting a dangerous precedent, this is a case in which every attempt made to settle has failed. Looking at the whole circumstances, one is forced to the conclusion that the object of Agar people has been to either wring from East Pool the whole of the cost of keeping their own mine dry, or else to force an amalgamation.

THIS has, however, failed. It might have been a good thing if the amalgamation scheme could have been arranged satisfactorily, but East Pool people could not be expected for one moment to amalgamate on the preposterous terms offered. They now propose to provide themselves with machinery capable of dealing entirely with their water, and although this is a very laudable determination, the accomplishment of it entails, under present conditions, a time of distress, if not disaster. It means practically that East Pool will be idle for (say) 18 months, and the men thrown out of work at the very worst time of the year. It means, further, that when the water has risen to a certain height in East Pool it will find its way into South Crofty, and thence into North Tincroft, with the probability of percolating into South Tincroft. This is an exceedingly serious prospect to contemplate, and ought to be sufficient to cause Lord Robartes to take immediate steps. We hear that the engine which the East Pool committee contemplate purchasing is the large engine at West Seton. The committee has been strengthened by the addition of Mr. James M. Holman, of Camborne, a member of the engineering firm of Holman Brothers, whose practical experience will be of considerable benefit to the executive at the present juncture.

MR. BASSET has acceded to the demands of the South Crofty committee, and granted the terms they asked for. The new terms are not exactly the Tincroft scale, but an alternative scale, which the committee suggested. The East Pool business will not assist the executive much in obtaining the capital they require,

but it ought not to affect them much, because by the time they have got down their new shaft the East Pool engine would be erected, and it would not matter very much if the water was in the mine for some time. South Crofty scheme ought to go well.

THEY are still getting on splendidly with the new shaft at Dolcoath, and it is expected that within a month from the start a depth of 12 fathoms will be reached. One of the men employed on the work was hurt last week, but his injuries are not of a very serious nature.

NOTES FROM ANDALUCIA.

PAPER ON THE CUPREOUS PYRITES DEPOSITS OF ANDALUCIA AND ALGARVE.

RETROSPECTIVE AND PROSPECTIVE.

Extracts and Notes from Mining Operations and Reports on these during the past 25 years.

By WILLIAM GUTHRIE BOWIE.

(*Continued from page* 1408.)

THE Spanish engineers, especially D. Lucas Mallada, supporting the theory formerly noted, objects to the opinions of Professors Roemer and Groddeck, and endeavours to make out that these oxidated outcrops accompanied the inflow of the cupreous pyrites as a separate body, and floated either as a semi-fused mass, like a scoria, or like a scum, after the manner of extraneous matter rising to the surface of liquors in boiling or fermentation, but not proceeding from the mass of cupreous pyrites below them, and denies the possibility of there being portions of the cupreous pyrites masses below them, oxidated by atmospheric agencies, because, he says, this would have left the iron in the ferrous state while they are in the ferric state. This, together with another number of reasons of minor importance, is considered by him as *prima facie* evidence in favour of his theory. But not to follow all his arguments, which all can read for themselves in his works, and if they also consult those of J. H. Collins, F.G.S., &c., who has written so ably on Rio Tinto, they will be able to convince themselves as to these opinions being correct, or within reason, or otherwise; meanwhile it may be well to note, leaving apart the thermo electric, magneto electric, and other such invisible agencies, which could affect, and has, no doubt, done so, great changes in these masses that the visible differences in height and other inequalities mentioned of these outcrops forming high angles of slopes of these in direction of their strikes, as well as the other circumstances of the hypogene rocks; and the earthy and stratified nature of these outcrops point to conditions impossible to sustain such a fluid scoria or scum, and even if it is admitted that these slopes and high angles along the strike are partly caused by denudation, still the configuration of the masses of pyrites show that these elevations, as the case may be, in their east or west extremities, are proper to the same. This and the antagonism and difficulties his theory occasions in respect to specific gravity and chemical combinations cannot be reconciled. But the fact is, these outcrops have still some portions in the ferrous state, and there are also in most still traces of sulphur and copper, if properly tested, in all. All are conversant with the fact how pyrites fires by spontaneous combustion when exposed in suitable conditions to atmospheric agencies, while in mining these masses in many places have fired and driven out the workmen by the sulphur smoke given off, being actually red-hot in many such places. Now, what would be more certain than that great heat would be developed when first elevated by the hypogene rocks, friction arising from this movement, and the chemical combinations then caused by the atmospheric agencies, and that combustion of the exposed masses would thus be generated, and which would be only as deep as that level where the absence of ventilation, presence of water, &c., would prevent further combustion downwards, while this would be strongest in the highest parts of these masses. That such a calcination is possible is easily seen, but it is fully evident that it has taken place, and while less pronounced just where this should be the case—viz, at the contact with the protected pyrites, it has been most violent at the crests and where fully exposed to the atmospheric agents, and immense masses of semifused ores with angular portions and splinters of their enclosing rocks, no doubt split by sudden heat from this combustion, are embedded and studded all over the same, and are found on the very highest points of the outcrops.

Thus the fact of these caps or gossans being in the ferric state is rather a proof of the pre-existence of the cupreous masses, rather than having been formed posterior to the hypogene eruptions, and that these assisting to generate spontaneous combustion, when they did erupt, is the cause of the iron contents in the outcrops being in the ferric state, while the sudden change from ferric oxides to pyrites, also brought as an argument against this possibility, is what is natural to this class of combustion that could only affect to the level air could penetrate, and that the constant presence of water would protect, while the sublimation of the sulphur and subsequent oxidation of the copper, which would be the first metal to do so, would cause a spongy mass, as we see in the process of calcination of this ore in the open air, and down through this mass filling up these pores, the finer particles would be washed by the rains falling on these surfaces (generally hollows or depressed) and this on through so many ages, carrying down silicious and earthy wastes, would, together with the fine ferruginous matter, settle at this level, where combustion could not penetrate, and cause a most distinct layer, and thus help to account for the sudden change from the one class to the other, while this percolation of the waters would leach away the copper contents as stated, as well as hydrate, large quantities of the iron oxides, silica, and other substances, some of which, particularly the iron in solution, would be again reprecipitated by similar agencies that brought it into solution, on reaching the open.

Description of Tobas.

The evidence of this is present in the masses of ferruginous conglomerates, known as "tobas," formerly noted, but which may now be more minutely but briefly described.

These, as formerly mentioned, are deposits collected during and common to all the geological systems reported as absent or wanting here, from the Lower Carboniferous to date, they are found occupying the depressions that have, during these ages, acted as outlets for the leaching of the masses of cupreous pyrites, and by them to some extent can be traced and estimated the progress of denudation around each mass, for they are found at different levels, sometimes forming what are now the crests of low hillocks, and sometimes forming long step-like layers along the flanks and on the banks of the ravines, gullies, or depressions that have subsequently been scooped out to deep glens or channels, by being the outlets of all the waters rushing from the surrounding heights, and forming streams, and scouring torrents, in their dales during rains.

They are chiefly composed of ferruginous matter, which acts as the binding matter enclosing the breccia of the near-at-hand broken-down and fissil rocks enclosing the masses of pyrites, or rolled from the hills around them, without being for this reason rounded as usual in true conglomerates, as, for instance, in "puddingstones," although they have also some rounded fragments, together with traces of vegetation, or organic matter, that have also grown and existed near them or in them, no doubt such organic matter considerably assisting the precipitation of the ferruginous matter from the solutions forming these conglomerates. The sources of this ferruginous matter are easily traced to the masses of cupreous pyrites, and no doubt can exist as to its origin being from these, while substantial deposits of the same class have been formed during our own short period of exploitation of these masses, and it need not be said, continue to be so.

The effects of denudation and atmospheric agencies can thus be imagined, and those who know the facilities with which the masses of cupreous pyrites yield to these last can try if they can calculate the immense amount of copper that must have been washed away to the sea. D. Casiano de Prado, in his writings on Rio Tinto, estimates that for this mine alone, from the fall of the Roman Empire up to his time, 80,000 tons of copper, 500,000 tons of iron, and 320,000 tons of sulphur have been swept into the sea, or a portion of the latter two have been reprecipitated as ferruginous conglomerates or "tobas." While the other substances accompanying these could be equally as great in quantity, what, then, must have been the quantity for that of all Andalucia and Algarve for the same period, and who can dare to remotely estimate what has gone to that universal recepticle since the ages of their first exposure to these slow but sure agencies of distribution and sedimentation of our metallic elements?

(*To be continued.*)

FOREIGN MINING MARKETS.

COLORADO.

COLORADO SPRINGS, COLO., NOVEMBER 9.

IT is now generally conceded that we are on the eve of a great mining excitement and, as is usual, those who have the good sense, nerve and money—for it takes all three—to buy before the boom strikes us, will draw large profits from the advance which is already taking effect all along the line. For months past I have been preaching that our stocks are selling at a lower figure than the values represented by the actual properties owned, and although prices have in many cases advanced several hundred per cent, the appreciation is entirely due to the wonderfully improved condition of the mines, and to a more extended knowledge of the capabilities of Cripple Creek as a gold producer. That the output for 1895 will reach the enormous total of $10,000,000 is no exaggerated estimate, and this surely is a record of which any four-year-old camp may justly be proud. Overcoming the natural disbelief which a series of disappointments in mining ventures, occasioned in the East, has been a long and difficult task, but the increasing daily mail which every broker in town is receiving shows that confidence is being renewed, and interest awakened, both here and abroad. The fact that Colorado Springs is able to support three successful stock exchanges shows how mining is being considered more in the light of serious investments than as heretofore only a speculative gamble, to be shunned by all conservative business men. The scope of investments offered here is unusually wide. For those who are willing to risk a little to gain much, I would recommend low-priced stocks selling at 3 cents or under, among which may be classed Lottie Gibson, Princess Eulalia, Oro Grande, and Silver State. For more conservative investors, Portland, Gold and Globe, Summit, Isabella and Pharmacist, all of which are more or less well developed and paying mines.—F. H. PETTINGELL.

TRANSMISSION OF POWER BY ROPES.—In a paper on power transmission by ropes and belts, read before the French Society of Civil Engineers, Mr. V. Dubreuil states that one great advantage possessed by ropes is that cyclical variations in the speed of the driving pulley are "damped" by the ropes, so that the speed of the driven pulley is much more uniform than that of the driver. Ropes are also useful when the two lines of shafting are not perfectly parallel. The velocity of the rope should not be less than about 1500 feet per minute, not more than 5000 feet, whilst with belts a velocity of as little as 600 feet per minute may be used, but the maximum should not exceed 4000 feet per minute, above which the centrifugal force prevents the proper adhesion of the belt to the pulley. For great distances between the lines of shafting, ropes should be used; though in exceptional cases they may be employed with as little as 12 feet between shaft centres, though in general the distance should not be less than 20 feet. Spans of as much as 338 feet have been worked by ropes with only one intermediate support. Under no circumstances should the diameter of the smallest pulley be less than 30 times the diameter of the rope, and in general the pulley ratio should not be greater than 4 to 1. Three stranded ropes of manilla, hemp, or cotton may be used. Hemp is much cheaper than cotton, and usually wears longer, but is less pliable. To facilitate estimates, the approximate weight of a rope pulley may be taken as 5½ lb. per groove for each inch of diameter, though single-groove pulleys will weigh double this amount.

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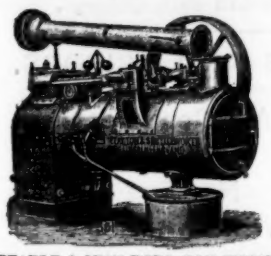
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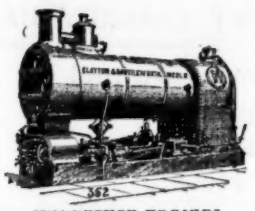
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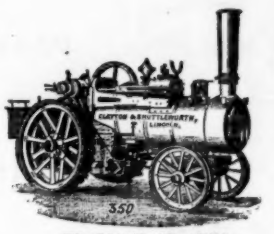
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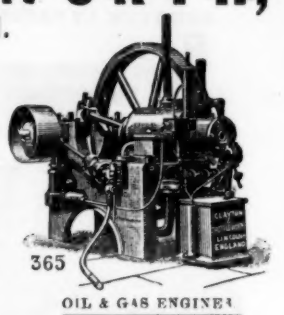
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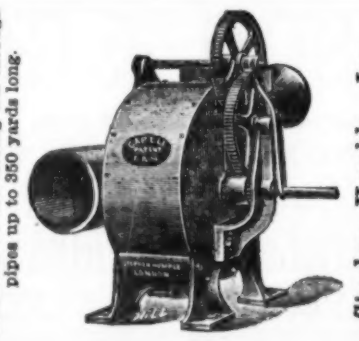

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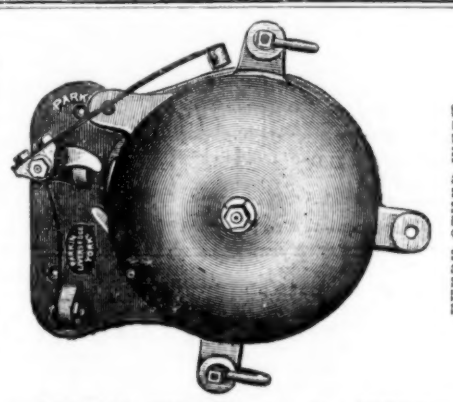

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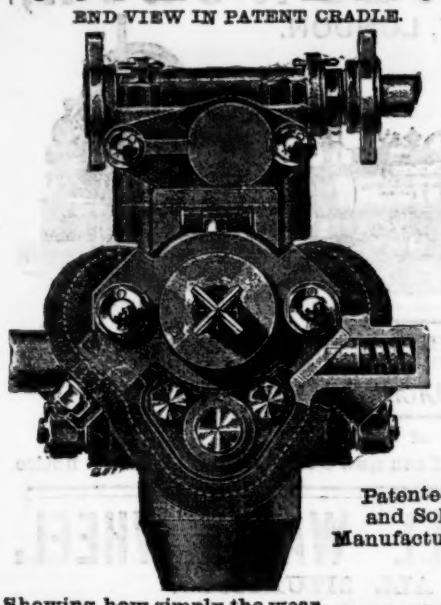

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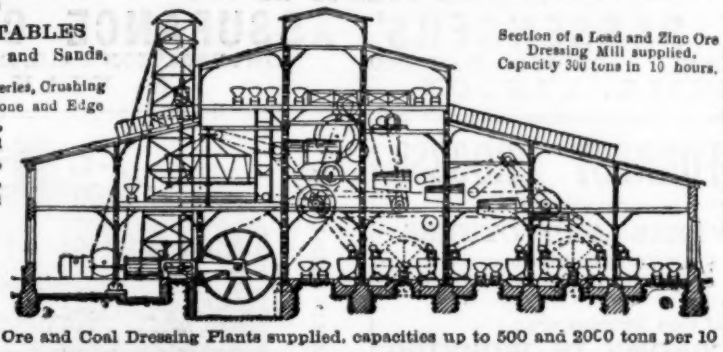

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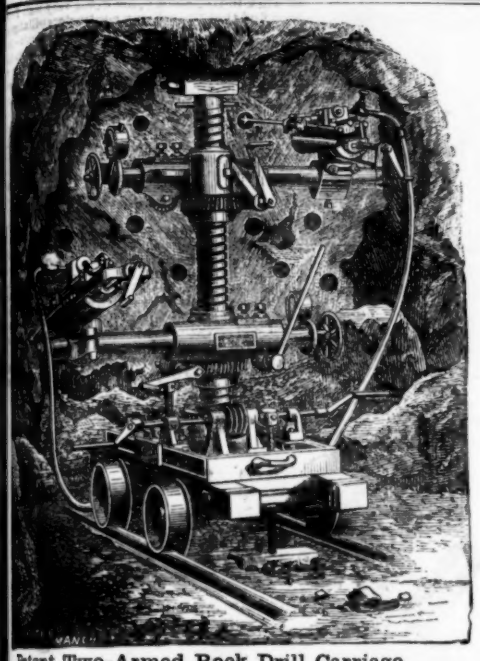

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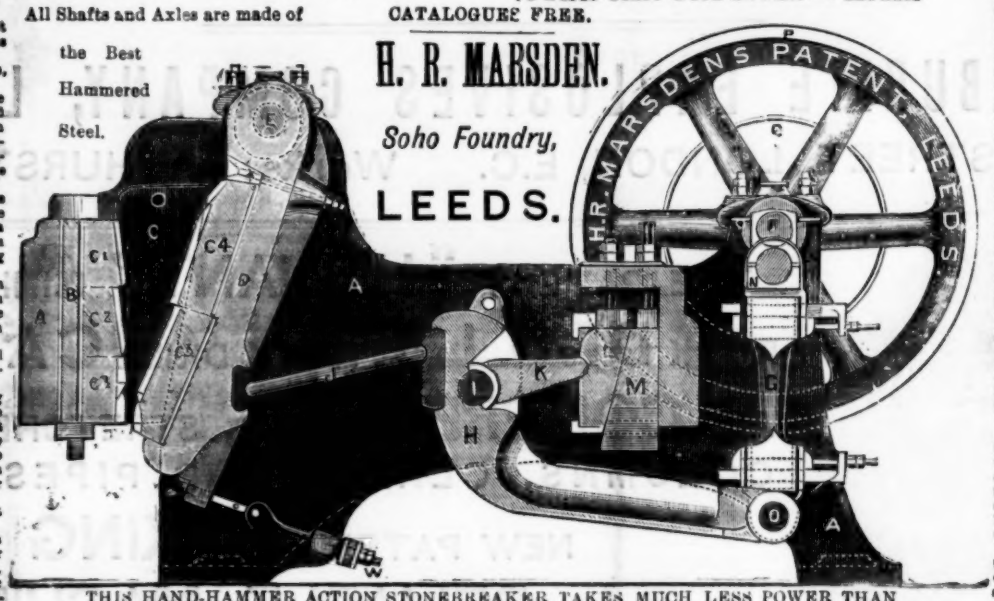

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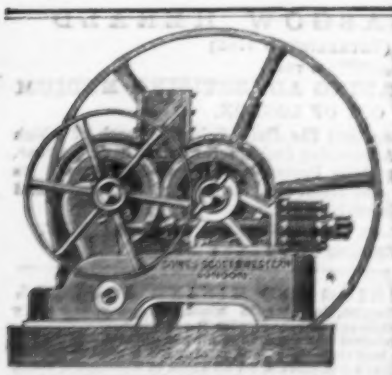

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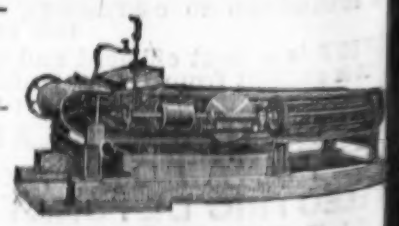

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Printed for the Registered Proprietors by JOHN ROBERT GALE, at their Printing Offices, 1, DORSET BUILDINGS SALISBURY SQUARE, in the Parish of St. Bride's, in the City of London.—November 23, 1895.